The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLV. CHICAGO, ILLINOIS, NOVEMBER 11, 1905. No. 20.

Original Articles

PSEUDO-SCLEROSIS (DIFFUSE SCLEROSIS),

WITH THE REPORT OF A CASE WITH NECROPSY.*

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WITH PATHOLOGIC REPORT AND REMARKS.

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PHILADELPHIA.

In 1883 Westphal[1] reported two cases presenting a symptom-complex resembling that of multiple sclerosis, but in which microscopic examination of the brain and cord gave negative results. To this condition was given the name pseudo-sclerosis. Since this time a number of cases (14) presenting this condition have been reported, mostly by German observers. It will be noted in reading the abstracts of these cases, which are given below, that the brain and cord in a number of them were unusually firm. A similar condition of hardness, although possibly more marked, is observed in another group of cases also presenting a symptom-complex resembling that of multiple sclerosis, in which microscopic examination of the brain and cord shows a proliferation of neuroglia and vascular disease. To this condition the term diffuse sclerosis has been applied, and a number of cases have been reported, mostly by German authors.

As will be shown further on, some authorities are coming to the opinion that the same pathologic condition is present in both pseudo-sclerosis and diffuse sclerosis, the former being merely a milder degree of the latter. To call attention to this possible relationship is one of the objects of this paper.

The pathologic condition now known as diffuse sclerosis has been frequently noted in the past, especially in the brains of idiots, and cases occurring in adults were reported years ago, although not under this title; but it is only recently that attempts have been made to erect on this basis a distinct disease.

Probably the first case was reported in 1849 by Duplay[2] to the Biologic Society of Paris. The patient had suffered for a number of years with paralysis and contractures of the lower extremities, probably brought on by overexertion and sexual excess. After a while the bladder, rectum and tongue became paralyzed, the mental condition being reported as good. At the autopsy the internal membranes were found to be opaque, but not adherent to the cortex; the gray matter was normal, but two-thirds of the white matter was sclerosed, more so toward the ventricles. This condensation was equal in extent on both sides. The tissue was yellowish and cloudy. The optic chiasm and the striate bodies were also of greater consistency than normal. The cord was small and atrophic.

In 1854, under the title of "A Case of Cerebral Sclerosis," M. Hirsch[3] reported a case and stated that several others have reported cases of chronic induration of the brain tissue. His patient was a man, 53 years of age, who had been suffering for several years. At the autopsy the principal conditions found were an injection and infiltration of the pia-arachnoid, which was easily separated from the cortex, and a toughness and dirty-white color of the brain substance; there was very little cortex, the tough, dirty-white material taking its place; in some places the brain seemed cartilaginous. The ventricular lumen was small, the striate bodies and optic thalami were atrophic and tough. In the left frontal lobe several spots of sclerosis differing from the rest of the substance in luster were seen. The pons, medulla and peduncles were also indurated. The basilar arteries were sclerotic. The condition of the spinal cord was similar to that of the brain. The clinical symptoms were disturbances of sensation, headache, dizziness, disturbances of motion as convulsive movements and contractures, paralysis of one hypoglossal nerve and of the bladder and anal sphincters, and causeless laughter and crying.

The first American case was probably reported by Echeverria[4] in 1869. His patient was a man aged 69 years, who had been an epileptic. His symptoms for several months before his death consisted of dizziness when he attempted to walk, weakness of the tongue, and paralysis of the lower limbs with contractures and involuntary muscular contractions. There was also pain in the legs. A bedsore and an eruption of herpes zoster developed. At times he was confused, at other times he would lose the power of articulating and swallowing, while at other times these processes and his mentality were intact. At the autopsy, in addition to aneurism of each vertebral artery, the cortex of the brain was found to be anemic and yellowish, and the brain substance was sclerosed, especially along the superior and inferior marginal convolutions, and both sides of the fissure of Sylvius. The medulla and the cord were also involved. Microscopically, the nerve elements were found to be diminished in number, their places being taken by proliferating connective tissue cells and fibers.

After this some other cases were reported, notably by Kelp,[5] and in 1878 A. Strümpell[6] wrote an exhaustive paper on the subject. He defined it as a condition in which the abnormal hardness and consistency of the brain, as a whole or in its greater part is noticeable on

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* Read before the Philadelphia Neurological Society, April 25, 1905.

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1. Archiv. für Psychiatrie, vol. xiv, 1883, p. 87.
2. Schmidt's Jahrbuch, 1850, lxvii, p. 288.
3. Prag. Viertel Jahresch. f. prakt. Heilk., 1854, 124.
4. "A case of Sclerosis of Both Third Anterior Frontal Convolutions Without Aphasia." Med. Record. 1869. iv, p. 1.
5. Deutsches Arch. f. klin. Med., 1872, x, p. 224.
6. Arch. f. Psych., 1878, ix, p. 268.

macroscopic examination. As causes he mentions hypertrophy of the brain, usually associated with idiocy; atrophy of the brain, senility, alcoholism, saturnism, and acute and chronic inflammatory diseases. He reports a case in an alcoholic and believes the sclerosis to have been due to a chronic diffuse interstitial encephalitis. He concludes that a definite disease can not be described from the reported cases.

After Echeverria, probably the next American cases were reported by Bullard.[7] In 1897 Heubner[8] reported a case and endeavored to set up a definite clinical picture. He describes it as a disease characterized by the appearance of paralysis and psychic disturbances. A spastic paresis of the legs first develops, which gradually extends to the arms; at the same time apathy and dementia appear and may terminate in idiocy. In the end a general paralysis develops; in some cases dysarthria and dysphagia occur. Optic neuritis was seen in one case. Etiologically he believes that hereditary syphilis and cerebral trauma play active parts.

In 1900 H. Weiss[9] reported a case and gave an exhaustive description of the disease, with full bibliography. His patient was a woman, 37 years of age, who had had symptoms of acute meningitis, associated with a suppurating middle ear. Two years after this attack she developed stiffness and weakness of the legs, painful spasms, hesitating speech, emaciation, increase of all the reflexes, increased mechanical irritability of the muscles. There was no involvement of the cranial nerves, sphincters or of sensation. He lays especial stress on the universal rigor which developed whenever she attempted to move. This he described as follows: When quiet, all the voluntary muscles are flaccid, with probably a slightly higher tonicity than normal; as soon, however, as movement is attempted the muscles become rigid, and the rigidity slowly increases to a maximum and then decreases in the same way. This rigor can be produced also by passive movements. All the muscles (trunk, extremities, larynx, eye, etc.) are affected. Every movement is laborious, hesitating and dragging. Speech is difficult because of spasm of the vocal cords. In addition to these symptoms there was apathy and gradually developing dementia. He considered the condition to be due to the previous meningitis. According to Weiss, other symptoms which may be present are vertigo, headache, ideas of grandeur as in paretic dementia, sudden changes of mood, the patient passing from a happy state into crying attacks; strabismus, inequality of the pupils, myosis, slow reaction of the iris to light, fibrillary tremors, general muscular atrophy, and tremor on movement.

In discussing the etiology, he states that the cases are to be divided into those existing before birth and those arising after birth. In the former class, the anatomic changes show that the child has had meningitis in utero associated with cerebritis, the nerve elements having been destroyed in large numbers. A meningoencephalitis can also produce it in an adult; other factors are syphilis, either acquired or hereditary, individual predisposition, heredity, overexertion, traumatism, alcohol and epilepsy.

Patient.—The patient whose case is now reported was admitted to the Philadelphia General Hospital Oct. 28, 1900. The man was a negro, 57 years of age, and a laborer by occupation. His chief complaint was "tremor and weakness of the extremities."

History.—There was nothing to note in the family history. Until six months before admission, when his present illness began, he had been a healthy and hard-working man. Until four years previous to admission alcohol had been used to excess. Syphilis was denied. The autopsy, however, showed that probably he had had it. Gonorrhea he had had once. The first symptoms noticed were progressive loss of strength, staggering and a tendency to trip over small objects. He stated that at times he became giddy and had fallen. He had suffered from dyspnea on exertion for the past twenty years.

Examination.—The heart, lungs and other viscera were apparently normal. The urine was normal. There was ataxia of both arms, also a coarse tremor, which was intensified by voluntary movements, such as lifting a glass. The gait was slightly staggering and spastic. The knee-jerks were increased, ankle clonus was absent, but the Babinski reflex was present on the right side. The pupils were equal, did not react to light, but did in accommodation. There was no other involvement of any of the cranial nerves nor of the bladder or rectum. Sensation was normal. A diagnosis of multiple sclerosis was made.

March 1, 1901, the following notes were made: There is no scanning speech. Tremor of the tongue is not present when the tongue is protruded, but there is a marked tremor of the muscles of the upper part of the face at this time. When the arms are extended a coarse tremor is developed. Extension of the legs also causes a tremor to develop in them, which ceases when the patient attempts to touch anything with his foot. This movement, however, is ataxic and there is slight ataxia of both arms. Nystagmus is absent. The gait and station are fairly good. The knee-jerks are much exaggerated, and ankle clonus is present on the right side. The Babinski reflex can not be elicited.

July 5, 1902, it was noted that for several days previously the patient had been noisy and had refused to eat, asserting that the food had been poisoned. By July 10 these symptoms had disappeared. This was the only time that the patient's mental condition occasioned any comment, he having been up and about since admission. July 28 he was suddenly taken with a convulsion, which lasted an hour. He then became comatose and remained so until he died, on July 29.

Assuming that diffuse sclerosis and pseudo-sclerosis are distinct conditions, Frankl-Hochwart[10] has made an elaborate attempt to formulate points of distinction in their symptomatology. He compared 13 cases of so-called pseudo-sclerosis with 22 cases of diffuse sclerosis with the following results:

ETIOLOGY.

1. *Age.*—The majority of cases of both occur in early life; only 3 cases of diffuse sclerosis are recorded in which the symptoms appeared after 40.

2. *Heredity.*—A history of various forms of nervous disease in the family may be obtained in either condition. This, however, seems to be somewhat more frequent in pseudo-sclerosis than in diffuse sclerosis.

3. *Traumatism.*—No case of pseudo-sclerosis can be traced to this. Eight cases of diffuse sclerosis have such a history; 5 head injuries, 1 fall from a tree, 1 a lightning stroke, and 1 difficult labor.

4. *Lead Poisoning, Syphilis and Typhoid Fever.*—These are mentioned as causes of pseudo-sclerosis; alcoholism, meningitis, nephritis and syphilis among those of diffuse sclerosis.

SYMPTOMATOLOGY.

Paralytic Symptoms.—These are the same in both conditions, i. e., either paralysis or paresis, which may be transitory and change its location; it may be hemiplegic in type.

7. "Cortical Sclerosis of the Brain in Children," W. N. Bullard, Jour. Nerv. and Ment. Dis., 1880, xv, 699.
8. Charité Annalen, 1897.
9. Obersteiner's Arbeiten, vol. vii, 1900, p. 245.
10. "Zur Kenntniss der Pseudo-Sclerose," Oberseteiner's Arbeiten, 1903, x, p. 1. (A bibliography is appended in the monograph.)

The Gait.—Either an ataxic or spastic gait is common to both affections, in some cases of diffuse sclerosis, however, walking is impossible on account of the spasms caused by the effort to walk.

Contractures.—These are common to both conditions and may be either transitory or permanent. The muscles of the back of the neck may be affected.

Tremor.—This is constantly present in pseudo-sclerosis and in two-thirds of the cases of diffuse sclerosis. The intention tremor is the more common; in pseudo-sclerosis this is in the nature of a to-and-fro movement, which does not occur in diffuse sclerosis. The head, face and tongue may also be the seat of tremor.

Pain and Paresthesia.—These occur equally.

Mentality.—In pseudo-sclerosis mental disturbances are the rule but not as common as in diffuse sclerosis, not one of the patients with this latter condition having a normal mind. Epilepsy, headache, vertigo, causeless laughter and crying, syncope and apoplexy occur equally in the two affections. Paralysis of the tongue, either bilateral or unilateral, is noted more frequently in diffuse sclerosis.

Tendon Reflexes.—These are increased equally in both conditions. Clonus is more frequent in diffuse sclerosis.

Speech Disturbances.—These are more marked in diffuse sclerosis (80 per cent.). The speech may be either scanning, dragging or indistinct. Aphasia may also occur in diffuse sclerosis, but has not occurred in pseudo-sclerosis.

Affections of Other Nerves.—The cranial nerves are more frequently affected in diffuse sclerosis than they are in pseudo-sclerosis. In the former optic neuritis, optic atrophy, optic pallor, amblyopia with normal fundus, hemianopsia, transitory diplopia, and strabismus have each been noted once; nystagmus and abducens paralysis, three times. Pupillary disturbances, i. e., either inequality, slow reaction or no reaction, may be present in diffuse sclerosis, but in pseudo-sclerosis the pupils react normally. In 11 cases of diffuse sclerosis facial paralysis occurred; this was never seen in pseudo-sclerosis. Hypesthesia and hypalgesia were present in 9 cases of diffuse sclerosis, but in only 1 of pseudo-sclerosis. Forced movements and tic occurred in a number of cases of diffuse sclerosis, but in only 3 of pseudo-sclerosis. Trophic and vasomotor disturbances and muscular atrophy are much more common in diffuse sclerosis. This is also true of bladder and rectal disturbances. Remissions occur in pseudo-sclerosis, but do not in diffuse sclerosis. The duration of the two affections is about equal.

It will be noted that the symptoms of these conditions are very similar, and it seems possible that, clinically as well as pathologically, as will be shown further on, this elaborate attempt to distinguish between the two diseases may be to make a distinction without much of a difference. As has been said, some authorities seem to be tending to this view.

Thus A. Strümpell,[11] in reporting 2 cases of pseudo-sclerosis, mentions that out of 4 cases of this disorder reported by him a peculiar anomaly which seemed to connect this disease with diffuse sclerosis had existed twice, i. e., the white matter was anemic and hard. This was also noted by Westphal in one of his cases. Strümpell concludes as follows: We have to do with the picture of a disease which in its details and in its chronic course resembles markedly multiple sclerosis, but its pathologic basis has never been found in any case. In most of the sections thus far made, nothing has been found. . . . In some of these cases a peculiar dense, leathery consistency of some parts of the brain substance has been observed. No histologic cause for this is known. Such cases seem to act as transitional cases between pseudo-sclerosis and those in which the entire cerebrum possesses this dense, tough consistency, and which have been spoken of as instances of diffuse sclerosis.

Oppenheim[12] remarks that in many of its symptoms diffuse sclerosis resembles pseudo-sclerosis, in which anatomically there is an increased consistence of more or less of the tissues, so that even anatomically it is difficult to draw a distinct line between pseudo-sclerosis and diffuse sclerosis. He concludes as follows: There is a certain form of disease resembling multiple sclerosis which occurs especially in childhood, although it may appear later. It is characterized by early dementia, a special variety of tremor and disturbance of speech, muscle tremor, the absence of nystagmus, of affection of the optic nerve and of tendon phenomena. This condition is known as pseudo-sclerosis. Anatomically it is either absolutely negative or there may be a slight degree of diffuse cerebral sclerosis. The same symptom-complex, or one approaching more closely to dementia paralytica, may be associated with a true diffuse cerebral sclerosis and degeneration of the pyramidal tracts. This condition can not be diagnosed during life. The combination, occurring in childhood, of progressive spastic paralysis with progressive dementia may arouse the suspicion that such a diffuse sclerosis exists. On account of the rarity of multiple sclerosis in early childhood it is proper to make, in such patients, a probable diagnosis of diffuse sclerosis, but in such cases the question must always be left open, whether pseudo-sclerosis or diffuse sclerosis exists. These conditions must be differentiated from multiple sclerosis and paretic dementia. Weiss says that the absence of nystagmus, changes in the eye-grounds, sensory disturbances and localized muscular atrophy distinguish diffuse sclerosis from multiple sclerosis; but a reference to Frankl-Hochwart's table will show that all of these symptoms, with the exception of the last, may be present in diffuse sclerosis, though rarely.

It is evident from the foregoing that so far as our present knowledge goes the diagnosis of this condition during life is exceedingly doubtful. The peculiar features of the case reported are the advanced age of 53 years when the symptoms began, the absence until late of marked mental changes, the absence of marked speech disturbances, and the presence of the Argyll-Robertson pupil. His symptoms differed from those usually found in multiple sclerosis, in the absence of nystagmus, great increase of the tendon reflexes, and scanning speech. It may be worthy of note that until four years previous to the onset of the symptoms the patient had used alcohol freely.

PATHOLOGIC REPORT AND REMARKS BY DR. SPILLER.

Sharp distinctions between the pseudo-sclerosis and the diffuse sclerosis are impossible either by means of the symptoms or the pathologic findings. It is true that Strümpell and Frankl-Hochwart made the diagnosis of pseudo-sclerosis each in one case during the life of the patient; Strümpell did not form the correct diagnosis until he found he had erred in a case with similar symptoms that came to necropsy, and Frankl-

11. Strümpell: Deut. Zeit. f. Nervenheilk, 1898, xii, p. 115, and vol. xiv, 1899, p. 348.

12. Nervous Diseases, 4th Edition, p. 359.

Hochwart at first believed that his case was one of multiple sclerosis. It is not surprising, therefore, that when the patient described by Dr. Potts was seen soon after his admission to the hospital in 1900 by Dr. C. K. Mills and myself, he was supposed by us to have multiple sclerosis.

In pseudo-sclerosis the findings should be negative, and in the diffuse sclerosis a more or less intense proliferation of neuroglia throughout the brain and spinal cord should be present, but transitional forms between the two disorders have been established by the pathologic findings. The neurogliar proliferation, however, does not form the distinct areas of degeneration seen in multiple sclerosis.

I have found the reports of 14 cases of pseudo-sclerosis with necropsy, and yet the findings were not negative in all of these. In one of Westphal's cases the brain was very firm (Case 1), as it was also in one of Strümpell's cases (Case 2), and in one of Langer's cases (Case 1). Frankl-Hochwart regards such cases and the case of Burk as transitional forms. In Bäumlin's case with necropsy there were slight spinal meningitis and some loss of nerve fibers in the spinal cord. In a number of cases of pseudo-sclerosis the brain was not examined microscopically. In two of Strümpell's cases the crossed pyramidal tracts appeared to be slightly degenerated (Cases 1 and 2). In Frankl-Hochwart's case the frontal lobe was atrophic. In one of Fickler's cases the cerebral gyri were diminutive, the pons and medulla oblongata were very small, the crossed pyramidal tracts were less deeply stained and contained more neuroglia tissue than was found elsewhere in the white matter. In Fickler's other case the pons and medulla oblongata were unusually small and hard.

Strümpell, in reporting the negative findings of his third case, remarks that pathologic changes in the central nervous system must have existed, but they were not of so gross a character that they could be detected by the usual histologic methods. Schultze found thickened vessels and some swollen axis cylinders.

It may be well to give the findings in the cases of pseudo-sclerosis with necropsy. With one exception (Babinski) I have obtained the original reports of these cases and have abstracted the findings.

1. In C. Westphal's[2] first case the gyri were small, especially in the temporal and occipital lobes, the white matter of the brain was anemic and very hard, especially in the posterior portions. The microscopic examination of this case was negative.

2. Westphal's Case 2. Microscopically and macroscopically the central nervous system was normal.

Fickler includes the second case of Langer[13] as one of pseudo-sclerosis, but Strümpell thinks both cases probably belong to this group.

3. In Langer's first case the brain substance was hard, but no microscopic changes were found in the central nervous system. The patient had had convulsions and had been unable to swallow, and Langer says that his condition resembled hydrophobia when he attempted to swallow.

4. In his second case the symptoms and pathologic study are very briefly reported. No changes were found in the central nervous system.

5. Babinski.[14] The cerebral pia was a little edematous. The brain and spinal cord appeared to be normal. Microscopically the tissue was normal, except that there was some slight sclerosis in certain places. The brain was not examined microscopically.

6. Francotte.[15] Macroscopically and microscopically nothing abnormal was seen. The brain and cord were not examined by the Marchi method.

7. In Strümpell's[11] first case the consistency of the brain was normal; sections from the spinal cord stained by the Marchi method showed a moderate amount of black dots scattered diffusely, but perhaps a little more numerously in the crossed pyramidal tracts. The crossed pyramidal tracts in the cervical region were less deeply stained, and there seemed to be a slight loss of nerve fibers in these areas.

8. In his second case the brain was remarkably hard and was almost of the consistency of leather in the occipital lobe. The lateral ventricles were dilated. The crossed pyramidal tracts seemed slightly degenerated in the upper part of the cord. The tissue from the brain, although it had felt so hard, appeared to be normal under the microscope. The Marchi method probably was not employed in this case.

Strümpell regards the cases with hardening of the central nervous system as transitional forms between pseudo-sclerosis and diffuse sclerosis, and he thinks syphilis may be an important cause of both processes.

9. In Strümpell's third case the central nervous system was normal macroscopically and microscopically. Marchi's method was not employed.

10. F. Shultze[16] says, in the brief report of his case, that he found thickened vessels and some swollen axis cylinders. The cerebral cortex was not examined microscopically.

11. Bäumlin[17] found chronic leptomeningitis of the brain and some spinal meningitis, slight loss of nerve fibers in the cord, congestion of the brain, and slight dilatation of the lateral ventricles. The brain was not examined microscopically. Marchi's method was not used.

12. Frankl-Hochwart[18] found the Pacchionian granulations very numerous in his case. The frontal lobe was atrophic, but otherwise there were no macroscopic or microscopic alterations.

13. Fickler[12] (Case 1) observed sclerosis of basal vessels, and the fissures of the cerebrum were deep and the gyri small, the pons and medulla oblongata were very small and hard, and the pyramidal tracts were slightly degenerated. The brain and spinal cord were examined microscopically, but not by the method of Marchi.

14. Fickler (Case 2.) The pons and medulla oblongata were small and hard. Microscopic examination does not appear to have been made.

We may compare the findings in these cases of pseudo-sclerosis with those obtained by Hugo Weiss[9] in a case of diffuse sclerosis. The central nervous system was very hard. The brain on microscopic examination appeared to be normal. The neuroglia was proliferated in the spinal cord, and numerous spider cells were found. The septa were two or three times the usual thickness. The walls of the vessels, even of the smaller vessels, were thickened, and perivascular cellular infiltration was present. The nerve cells were normal.

The findings in other cases of diffuse sclerosis as given by Weiss have been: Distinct proliferation of the neuroglia, greater at some parts of the central nervous system than at others; perivascular round-cell infiltration, many spider cells, thickened and numerically increased vessels, and chronic meningitis. Degeneration of distinct systems of fibers does not occur.

It is evident, therefore, that sharp distinctions between the findings of pseudo-sclerosis and those of diffuse sclerosis can not be made, and that the differences are probably chiefly in the degree of the alteration and

12. Wiener Med. Presse, vol. xxv, 1884, p. 698.
14. "Etude anatomique et clinique sur la sclérose en plaques," Paris, 1885.
15. Annales de la Soc. Médico-Chirurgicale de Liege, vol. xxvi, 1887, p. 308.
16. Lehrbuch der Nervenkrankheiten, vol. i, 1898, p. 285.
17. Deutsche Zeitschrift für Nervenheilkunde, vol. xx, 1901, p. 313.
18. Deutsche Med. Wochenschrift, No. 11, Dec. 15, 1905, p. 1886.

not in the character of the alteration. The unusual firmness described in some of the cases of pseudo-sclerosis must be caused by a proliferation of the neuroglia, even though this proliferation can not be detected by the microscope.

NECROPSY.

The case that Dr. Potts and I report may be regarded as one of pseudo-sclerosis, or at least as a transitional form. It is probably the first case that has been observed in a colored person. The necropsy was made by Dr. F. P. Gay, July 29, 1902. The pathologic diagnosis was hardening of the brain and spinal cord; chronic diffuse nephritis; gummata of liver; acute serous pericarditis; acute fibrinous pleurisy.

The brain was extremely hard in all parts and the blood vessels throughout were very prominent. On section, the brain was markedly firm in both the gray and white matter. There was no evidence of gross pathologic lesions. The white substance was more firm than the gray. The cortex was slightly increased in thickness and was homogeneous and extremely firm in consistence. The injection of the capillary vessels was extremely marked throughout the brain. The basilar artery was rigid.

The spinal cord was extremely firm and showed no areas of degeneration. The entire brain, when removed from the cadaver, felt as though it had been partially hardened by some fluid.

The microscopic examination was made by me. The cerebral pia was slightly thickened and showed an unimportant round-cell infiltration. Sections from the para-central lobule stained by the Weigert hematoxylin or acid-fuchsin method presented no distinct signs of degeneration; but some of the small capillaries within this part of the brain were thickened and some were calcified. The cells of Betz, stained by thionin, were normal, except that occasionally slight diffuse staining was detected. Slight round-cell infiltration was seen about some of the small vessels within the paracentral lobule, but this was not important. In some parts of the paracentral lobule hemorrhages within the perivascular spaces were found.

The medulla oblongata appeared to be normal, both by the Weigert hematoxylin and the acid-fuchsin stains.

The neuroglia of the white matter of the spinal cord was possibly slightly increased in amount, and occasionally a somewhat swollen axis cylinder was found. The nerve cells of the anterior horns stained by thionin appeared to be normal in the cervical and lumbar regions. No alteration could be detected in the spinal cord by the Weigert hematoxylin method, and there was no round-cell infiltration within the spinal cord or spinal pia. The Marchi sections of the cord showed a very few black dots in the crossed pyramidal tracts, so few that they are of questionable importance, and were not unlike what Strümpell found in one case.

NOTE.—Since this paper was prepared a case of diffuse sclerosis has been reported by Rebizzi.[19] He expresses opinions regarding the relation of the pseudosclerosis to the diffuse sclerosis similar to those set forth in this paper.

19. Rebizzi: Rivista di patologia nervosa e mentale, Feb., 1905, p. 57, and March, 1905, p. 105. Abstract in Review of Neurology and Psychiatry, June, 1905, p. 420.

Feeding Patients in the First Stage of Labor.—The *Canadian Nurse* states that patients are less exhausted after labor if they can be induced to take a little easily digested nourishment during the first stage; and that tea, hot milk or chicken broth seldom interferes with the subsequent administration of chloroform, should this be necessary.

CANCER OF THE BREAST.

END RESULTS OF 100 OPERATIONS.

HOMER GAGE, M.D.

WORCESTER, MASS.

Five years ago this winter, I reported[1] the results of my operations on the cancerous breast, with the subsequent history of each of 46 cases. To this record I now desire to add 62 cases of cancer of the breast, all operated on prior to 1904, 42 of which were done before 1902, and have, therefore, passed the traditional three-year period.

Since the reading of the earlier paper, little has been added to our knowledge of the disease itself, nor has any substantial advance been made in the means of preventing or controlling it. The subject of the general distribution and prevalence of cancer has been much discussed, and the deaths from cancer certainly seem to be increasing steadily from year to year. This opinion is derived from the results of postmortem examinations made at the large clinics of continental Europe, as well as from the general mortality statistics of this and other countries, and from the mortality experience of the older life insurance companies.

The statistics of the autopsy room, and of the life insurance companies would seem to indicate that this increase is chiefly in the internal or visceral form of cancer, and, therefore, may be due, perhaps, in large measure to more accurate methods of diagnosis and classification. It would hardly be fair to infer from anything yet published, that there is any especial increase in cancers of the more superficial, and therefore more easily recognized parts of the body; as for example, the tongue, lip, breast or testicle. In any very marked general increase, it would seem as if these parts should share. Whether they do or not, would certainly appear to be important in reaching a conclusion on the larger question.

In spite of the efforts so long and earnestly devoted to the study of cancer in the laboratories of the world, its origin and nature still remain an impenetrable mystery. From the clinical side, it seems as if an infectious agent must be found, and it is believed that the agent will be found to be a protozoon such as is found in malaria, and is thought to have been found in smallpox and scarlet fever.

From the laboratory side, however, the discovery of such an organism, or of any organism, as the specific cause of cancer, seems highly improbable. Meanwhile we must go on empirically attempting its removal by radical operation, and waiting for its local or internal reappearance.

In my former paper, I said that I purposely avoided the use of the term cure, because it seems to be impossible to fix a limit beyond which it may not reappear, and I still think it much more exact to speak of immunity for a longer or shorter period, rather than of cure, and to omit all reference to a three-year limit.

It is perfectly true that recurrences are more common in the first year than in the second, and in the second, than in the third, and in the third than in the fourth, and so on progressively; but the progression is a regular one, with no more relative difference between the third and fourth years than between the second and third, or the fourth and fifth.

The use of the three-year period as the limit which divides the probability from the improbability of re-

1. Boston Med. and Surg. Jour., Aug. 30, 1900.

currence, should be abandoned, as it no longer has any foundation for its existence.

Since 1900 there have been no valuable additions or modifications of the technic of the radical operation as then described. At that time, it seemed as if the field of operation were likely to be extended. Halstead proposed to remove the glands from the lower cervical triangle in every case, and Cushing had essayed to follow the affected lymphatics down into the mediastinum. Neither of these plans has received much encouragement, and both seem likely to fall into disuse.

Whatever may be one's theory of the origin of cancer, all agree that it is disseminated through the lymphatics, and that the probability of its thorough extermination is inversely in proportion to the number of glands secondarily involved. The free anastomosis of the lymphatics of the neck makes it altogether probable that if they are already involved, a radical or complete removal of the disease is very unlikely, and the attempted removal of more than doubtful expediency. Our efforts would better be directed to securing an early recognition of the disease and more prompt removal, than to an extension of the field of operation in neglected cases beyond the probability of a successful result.

One of the curiosities of the subject has been the discussion, during the last few years, of oöphorectomy for the relief of inoperable cancer of the breast. It was first suggested and advocated by Beatson of Glasgow in 1896, and Boyd,[2] in 1900, reported the results of 54 cases; 19 patients received more or less benefit, and 34 little or none at all. In some cases the superficial disease had entirely disappeared, and cancerous ulcers had healed over. But the benefit seemed to be of short duration.

Abbe, of New York, reported one or two very strikingly successful results, but they were reported so soon after the operation, as to be of little value in determining their permanent success; and, on the whole, as was to be expected, the idea seems to have been one of those curious freaks that now and then appear in surgery and medicine, hold the stage for a little while, and are soon forgotten. It never had the slightest rational basis for existing at all.

The application of the *x*-rays to the treatment of cancer of the breast has received some attention during the past few years, but this, too, has failed to accomplish much beyond the occasional healing of superficial ulceration, and the general relief of pain. As a means of effecting a radical removal, it is much less reliable than the knife, and takes so long that its preliminary trial wastes valuable time, and lessens the chance of a successful operation.

We find success, therefore, just where we did five years ago, depending on the radical operation as advocated so earnestly in this country by Halstead, viz., the removal of the entire breast with a large amount of overlying skin, with the pectoral portion of the pectoralis major muscle, and the whole of the pectoralis minor, and with the thorough and complete dissection of the axillary space.

Further experience confirms the opinion expressed in the previous report, that removal of the muscles in no way interferes with the use of the arm. In this second series there has been much less impairment of usefulness than was encountered with the earlier operations, where the muscle was untouched. The removal is more thorough, and the dissection of the axilla, which in the present state of our knowledge is essential to a thorough operation, is made safer, easier, and far more complete.

2. Brit. Med. Jour., Oct., 1900.

SUMMARY OF CASES.

In the report of 1900, there were 46 cases, and of these, at the present time, 8 patients are living and well without recurrence. In 3 cases, 12 years have elapsed since the operation; in 1, over 11 years; in 1, 10 years; in 1, 9; in 1, 8; and in another, over 6 years. In the ninth case, the patient who was living and well at the time of the report, died 6 years after the operation of probable cancer of the brain, although no verification of the diagnosis could be made, as postmortem examination was refused.

There were no deaths from the operation, but local or regionary recurrences were noted at least in half of the cases. As many of these operations were done before I began to remove the pectoral muscles as a routine practice, now seven years ago, and were therefore less thoroughly done, I expressed my belief then, that the later results would be better, and I take pleasure now in presenting the record of what has been done from the beginning of 1899 to the end of 1903.

There are in all 62 cases, and here, as in the previous series, there has been no mortality from the operation, every one of the patients having recovered fully and completely, so as to be discharged from the attending physician's care; making 108 cases, without a single operative death. In all but 5 of these 62 cases, the muscles were removed as described above. In 3 of these 5, a palliative operation was done, as the disease had progressed so far that radical removal was impossible; and in 2, to which future reference will be made, only the tumor was excised. To those patients who were living at the time of the previous report, and to all in the present series of 62 cases, circular letters were sent requesting the following information:

Has there been any sign of return of the disease?
If so, when did it first appear?
If so where did it first appear?
Present condition.
If not living, date of death—cause of death.
Evidence of return of the disease, whether internal or external.
Name of physician attending at death.

Answers have been received from the patients, their attending physicians, or both, in every instance but one. In that case, the patient can not be traced. Deducting that one, the three incomplete palliative operations, and one case in which death was due to typhoid fever three months after the operation, and we have to consider 57 cases. In every one a pathologic examination and report has been made by Dr. F. H. Baker, and the clinical diagnosis of cancer has been confirmed. No attempt has been made to divide the growths into the so-called varieties of cancer, such as the medullary, schirrhus, adenocarcinomatous, carcinamatous, colloid, etc. Such a classification has always seemed to me very inexact; just how much fibrous stroma is necessary to make a growth schirrhus, how soft and cellular it must be to be classed as medullary, and so on, must depend entirely on the individual judgment of the examiner, and it would hardly be expected that any two classifications of a hundred specimens would be alike.

Of these 57 operations, 38 were done between 1899 and 1902; i. e., all of them more than three years ago. Fifteen of these patients, or 39.5 per cent, are alive and free from recurrence at the present time. In 2,

more than 5 years have elapsed since the operation; in 8, more than 4 years; and in 5, more than 3 years. In the earlier series of 46, only 11 passed the 3-year limit free from recurrent disease; so that the results as regards immunity, are distinctly better in the later series, which comprises the more radical operations.

If we turn to the unsuccessful cases, the improvement is much less marked; in the earlier series there were 23 patients in whom the disease reappeared locally, or 50 per cent.; in the later series there are 20 patients in whom local or regionary recurrence has been noted, or 53 per cent.; I group the local and regionary recurrences together because even when there is no appearance of disease in the external skin, an infiltration of the cervical or supraclavicular glands, and the hard, brawny swelling of the arm due to pressure on the axillary or subclavial vessels, are really evidences of a return of the cancerous disease in the track of our operation; and of quite a different character from the secondary growths which we observe in the stomach, liver, and brain, often after so long a period of immunity, as to encourage one to believe in the possibility of a permanent cure.

AGE OF PATIENTS.

A study of the ages of these patients at the time of operation throws little light on the value of age as a factor in determining the possibility of recurrence. Of the 88 patients thus far considered, 7 were between 30 and 40; 29 between 40 and 50; 22 between 50 and 60; 23 between 60 and 70; and 7 between 70 and 80. Of those who passed the 3-year limit without recurrence, 2 were between 30 and 40; 10 between 40 and 50; 5 between 50 and 60; 6 between 60 and 70; and 3 between 70 and 80. From these figures, it would appear that almost one-half of those between 70 and 80 had remained well; that about one-third of those between 30 and 50; and only one-fourth of those between 50 and 70, were equally fortunate.

This would seem to confirm the prevailing impression that cancer in very old people is less malignant than in the earlier years, just as all the vital processes are less active; but it is rather surprising to find that the patients between 30 and 50 have done a little better than those between 50 and 70. Of the two patients who were under 40 years of age—one was 34, and the other 38 years old, and both have been over 4 years without reappearance of the disease.

In both, microscopic examination showed that not only the breast, but the axillary glands were infiltrated with cancer at the time of the operation. It is unfair to draw any conclusions from so small a number of cases, but I think we may safely say that these results confirm the favorable prognosis generally accepted in patients over 70 years of age; and that they hold out greater hope than we have usually dared to express in the cases which appear before the climacteric.

DURATION OF DISEASE.

It is interesting to study the length of time which the disease is known to have existed prior to operation, but such statistics give little accurate information. It is very doubtful if any of these patients knew within many months of the time when bunches first appeared in the breast. How common it is to have a patient ask advice in regard to a lump in the breast, which she had discovered for the first time a week or two before, but which, from its size and feel, the surgeon knows must have been growing many weeks, if not months.

Perhaps, however, in a large enough series, the error would be so nearly constant, that one could at least be sure which were earlier, and which were later operations. In this present series of cases, there were 74 in which the duration of the disease is given; in 5, it was less than 3 months; and of these, 1 patient is alive and well 12 years after operation; in 18, it was between 3 and 6 months, and of these 5 patients are alive and well from 12 months to 3½ years later; in 20, it was from 6 to 12 months; and of these, 5 patients are free from recurrence from 13 months to 3½ years; in 22, it was from 12 to 24 months; of these 6 patients have had no return from 11 months to 3 years, after the operation; and in 9 cases the disease had existed over 2 years at the time of its removal; and 4 patients are still free from any signs of recurrence; 9, 5, 3¾ and 3 years respectively.

Certainly no deductions of any value can be drawn from these figures. The smallest percentage of those remaining well after the 3-year limit, is among those who were operated on earliest, and the best results obtained were among those in whom the disease had existed the longest; a striking illustration of the unreliability of figures.

I believe that each of these 4 patients in whom the disease had been present over 2 years, and who are still well, represents a less malignant form of cancer, or a personal resistance to cancerous invasion. We have not yet learned to differentiate between the degrees of malignancy, any more than we have discovered why some streptococcic invasions are so much more fatal than others. Until we can do this, I doubt if much of value is to be derived from the study of the duration of cancer before its removal.

TIME OF RECURRENCE.

Of more importance than the age of the patient, or the duration of the disease, are the statistics which show the time when recurrence of the disease was first noted, and whether it took place in the neighborhood of the scar of the previous operation, i. e., locally, or more remotely, in other parts of the body.

Halstead made another division, which he called the regionary recurrences, i. e., those in which the scar and adjacent skin were not involved, but in which the disease appeared in the cervical and infraclavicular glands. The distinction seems to me rather a fine one, and I have preferred to call everything local, which appears in the vicinity of the former operation, and presents visible or palpable signs of recurring cancer.

In the earlier series of cases, we find that local recurrence took place in less than 6 months in 11; in less than a year in 7; in less than 2 years in 5. Internal recurrence was noted in 8; in 5 of them within a year; 3 times it is stated that the disease appeared in the stomach, once in the lungs, and once in the "bowels"—in another case, the disease is said to have been noticed first, 2 years after the operation in the abdomen, and death followed a year later with no local manifestation. One patient died 3½ years after operation, with cancer of the clavicle, and generally disseminated visceral cancer; while the eighth died 6 years after operation of cancer of the brain.

It will be observed that local recurrence occurred 3 times oftener than internal, and that in more than three-fourths of the cases, it occurred within a year. Now, if we come to the second series of cases, we find that local recurrence was observed in 7 cases within 6 months; in 3, within one year; in 7, within 2 years; and in 3, within 3 years; while only 3 patients died

from internal cancer without any local manifestation. Thus, only half of the patients had presented signs of local recurrence within the year. It will be noted, therefore, that not only has the number of those who have had immunity for 3 years increased in the second series, but the period of immunity in the rest has been decidedly longer.

I believe that this is the result of a more thorough and radical removal of the primary disease, and I am strengthened in this belief by a consideration of the patients who were operated on in 1902 and 1903, and which I have not included in these summaries.

In 1902, 11 patients were operated on for cancer of the breast; 7 of whom are still free from any signs of the disease; 2 died with reappearance of the disease locally within one year; and in 1, a local recurrence was removed in 1903, and she is still free from any further manifestations. Thus, in only 3 cases out of 11, has there been any recurrence of the disease locally, and all are 2 years old, and some of them lack but a few months of being 3 years old. One patient died within 3 months of cancer of the lung, which was probably present at the time of the operation, but not recognized.

In 1903 there were 9 operations, and in only 2, has there thus far been any recurrence. One was a patient who had been under the care of a "cancer doctor" for 4 months, and presented a sloughing ulcer, involving the whole breast; the glandular infiltration extended beyond the possibility of its complete removal, and she died with signs of local recurrence within 4 months.

The other was a very advanced case, in which I found enlarged glands reaching up above the clavicle, beyond the point where I could remove them, and therefore stated in my notes of the case that I considered recurrence merely a question of time. In one other case, in which the patient was operated on 2 years ago last May, there are some indications of malignant disease of the stomach, but this is not yet certain. In any event, here are 6 out of 9 patients who have lived beyond the year, 5 of them more than 2 years without any reappearance of cancer.

CONCLUSION.

Our investigations into the time when the recurrent cancer of the breast is likely to manifest itself, would, therefore, appear to show that a much longer period of immunity may be safely promised, now that the disease is more thoroughly and radically removed at the outset, than was formerly thought possible.

I think that these results fully justify the expression of confidence contained in my former report. No attempt has been made to select cases favorable for operation. No patients have been rejected except those in which it was perfectly evident that all the diseased area which could be seen or felt, could not possibly be removed; e. g., those cases in which the cancer was already firmly fixed to the chest wall, or in which the cervical and infraclavicular glands were so large as to be palpable.

Partial operations, such as these conditions make necessary, are doomed to failure from the start, and should not be attempted. Under all other circumstances, a radical removal may be safely advised. Even then, the disease on dissection will often be found to extend far beyond the limits which were recognized at the preliminary examination, but this chance must be taken, and even if the axillary glands are considered enlarged, if those beyond can not be felt, the patient should be given the benefit of as complete an excision as is possible.

As I stated in an earlier part of this paper, I prefer not to speak of any of these cases as cured. I am not at all sure yet that cancer is ever cured, in the sense that benign tumors are cured by their removal, but I do believe that more radical and improved methods of operating have lengthened very much the period of probable immunity from a recurrence of the growth, and that the limit of benefit has not yet been reached. I think the results of these later cases justify this belief.

REPAIR OF THE PERINEUM.*

GEORGE B. SOMERS, M.D.
SAN FRANCISCO.

If we examine the status of the operation for repair of the perineum, we find the following suggestive facts. In the various text-books and standard articles on the subject there are between 25 and 30 different methods described. Running through these we fail to find any common law or principle that governs them.

The word perineorrhaphy means simply sewing the perineum. If we were to depend on the study of these operations in order to find out whether it has any deeper meaning we should conclude that the word is used literally. That is to say, the majority of operations are simply methods of sewing and patching rents or tears.

Perineorraphy should imply the restoration of the function of the perineum by restoring the anatomic relation of its structures.

Before offering a practical method of repair, there are certain premises that should be accepted. They may be summed up as follows:

1. The usefulness of the perineum depends on the action of its muscles, rather than on its bulk or the strength of its fascia.

2. The chief functional structure of the perineum is the levator ani.

3. When the function of the perineum is at fault, it is the levator ani more than any other structure that needs repair.

The realization of the prime importance of the levator ani has apparently had very little influence on the technic of perineorraphy. I know of only two or three authors who insist on direct repair of this muscle and *who show how to do it.* By establishing its importance we realize the superiority of active function over mere bulk and acknowledge that the good perineum depends on what it can do rather than on how it looks.

It is difficult to disabuse ourselves of the idea that the function of the perineum is dependent on its size, or shape, or the strength of the tissues of which it is composed. In other words, we are prone to attribute to it passive strength, rather than active function.

The perineum is the meeting point of several muscles whose function it is to keep the rectum, vulva and vagina closed.

The rectum is closed by the powerful sphincter ani, but with this muscle we have nothing to do in the ordinary repair of the perineum. The muscles that concern us are the superficial perineal and the levator ani.

The vulva is kept closed by the superficial muscles.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

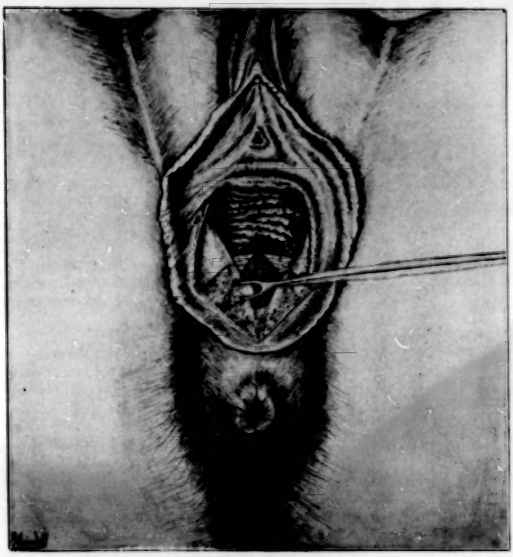

Fig. 1.—Edge of levator fished out.

Of these the bulbo-cavernosi keep the labia together, and narrow the vaginal outlet.

The transversus perinei assist in keeping the entrance closed and have some action in lifting the perineum as a whole, but neither of these muscles have much to do with keeping the vaginal walls in contact. In order to demonstrate this point we have only to call attention to the conditions found in a skin perineum where the bulbo-cavernosus and transverse perineal muscles may be intact and yet all the symptoms of relaxed vaginal outlet be present.

Suppose, however, we take the opposite condition of things, where the superficial muscles are injured but the levator ani remains unimpaired. Here we find that even where there is considerable gaping of the vulva the vaginal walls still remain in contact and no rectocele or cystocele occurs.

It is, then, the firm closing of the vagina, keeping the walls in contact and excluding the air, which prevents prolapse of the vaginal walls. That the levator is the chief factor in maintaining the closed condition may be shown first by testing with the examining finger, second by dissection, which reveals a considerable bundle of fibers running between the rectum and the vagina and which evidently act as a sphincter.

It follows from what has been said that as long as the levator is uninjured a laceration of the superficial muscles hardly needs repair. Suppose the vulva does gape a little and expose some of the vaginal mucosa, no harm is done, and we know from experience that nearly every woman who has borne children presents this condition. To repair in such a case is nothing more than cosmetic, and we are hardly justified in advocating cosmetic operations in this part of the body, at least in polite society.

On the other hand, when the perineum does not perform its duty, when there is rectocele or cystocele, then the levator ani is at fault. It is torn or stretched or relaxed, and its repair must be the chief aim of any operation designed to restore the perineum.

CONDITION OF THE LEVATOR WHEN INJURED.

In childbirth the levator ani is enormously stretched and sometimes lacerated. If injured, the ruptured ends retract, diminishing the thickness of the perineum in proportion to the injury to the muscle. The retracted ends may be found at the sides of the vagina. In place of a body, we have remaining between rectum and vagina only a thin septum consisting of rectal mucosa joined to vaginal mucosa. In some cases where there is not a complete laceration of the levator fibers, they are so relaxed or overstretched that they can not properly keep the vagina closed. The result is a hernia of the pelvic contents. If

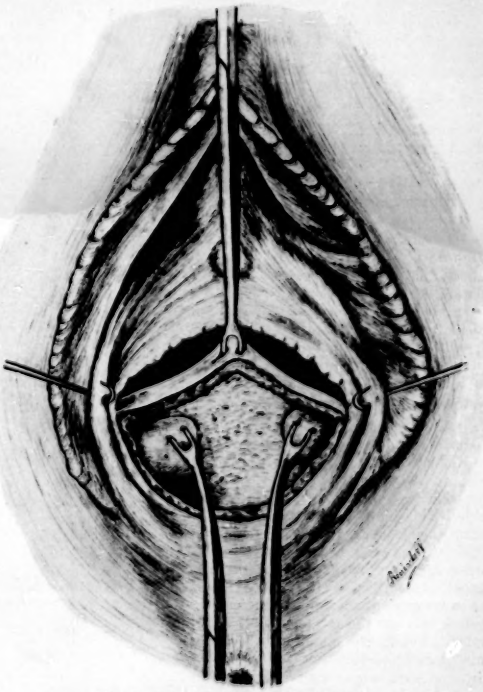

Fig. 2.—Both edges held ready for suturing.

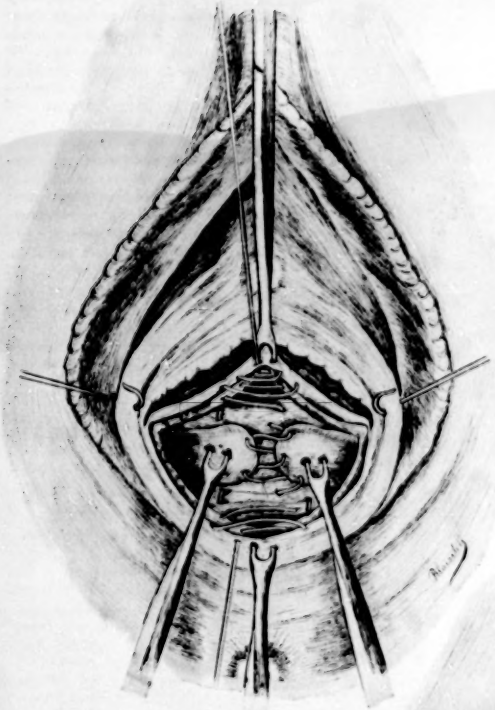

Fig. 3.—First suture inserted (vulsella should still be in place).

we could examine the injured levator ani, stripped of all other tissues, we would find that it practically presents one large opening for rectum and vagina, instead of a separate opening for each. Therefore, in order to cure the hernia, the openings through the pelvic floor must be made smaller by restoring to their former relations the retracted ends of the levator ani.

EMMETT OPERATION.

Do the ordinary operations bring the levator ani fibers directly in contact? In the Emmett operation, the inverted W denudation leaves a tongue in the median line, which is a portion of the original rectocele. This tongue is a thin septum consisting chiefly of vaginal mucosa joined to rectal mucosa and either containing no levator fibers, or at most fibers that are relaxed. It is, then, a pathologic structure and in no way suitable to form a connecting link between the retracted ends of the levator. Yet in the operation this intervening tongue of rectocele is sewed to the levator on each side. It serves to keep the divided ends apart rather than to unite them.

HEGAR OPERATION.

In the Hegar operation, the triangular denudation leaves nothing in the way of direct union of the fibers, but there is no special effort made to isolate, expose and unite them. As they are retracted, they are necessarily covered with more or less tissue. Simply to bring the denuded surfaces together does not bring the two portions of the levator in direct contact.

REED'S OPERATION.

One of the very few efforts to get the levator directly united is made by Reed. He splits up a flap, as in Tait's operation, feels for the levator with the finger, passes two sutures through each edge and in tying draws them together in the median line. The flap is then sewed down over the united muscle. To my mind, this operation is based on correct principles. Where there is but a small amount of redundant mucosa it is above criticism. In the majority of cases, however, it is desirable to remove more or less tissue on account of redundancy, the presence of cicatrices, irregular sulci, etc. Accordingly, the following technic is offered as an easy method of exposing and uniting the le-

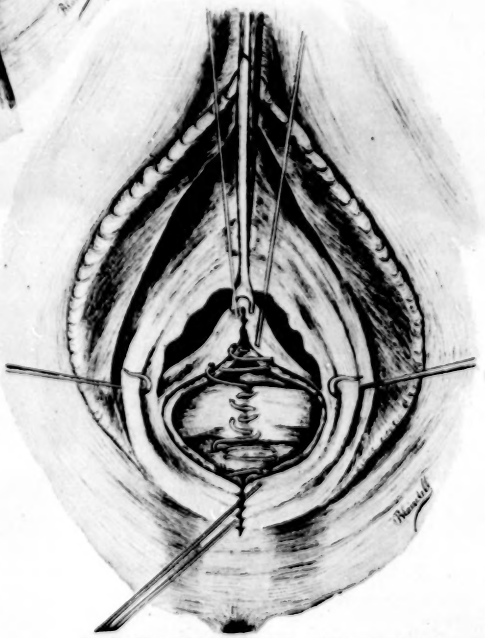

Fig. 4.—First suture drawn taut; second suture inserted.

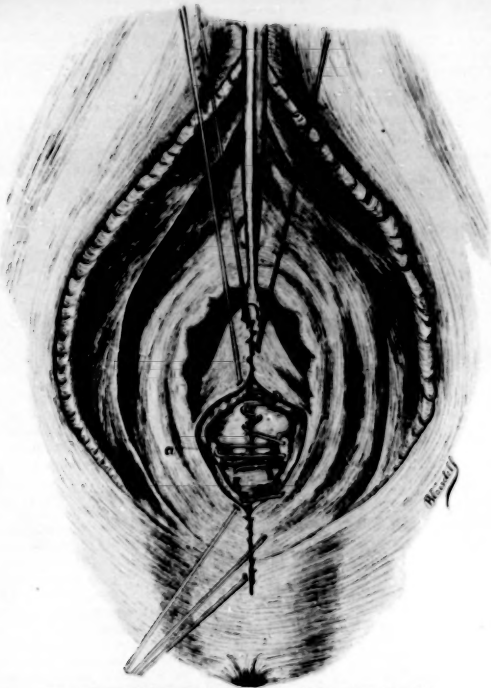

Fig. 5.—Second suture drawn taut; third suture inserted.

vator fibers, adapted to cases where there is much relaxation or deep sulci.

FISHING OPERATION.

In the first place, the edges of the levator are located on either side by examining with a finger in the vagina. A simple denudation is now made with the idea of uncovering the points where the muscle is felt. A triangular denudation answers as well as any, and is adopted because simple and convenient.

When the mucosa is removed, the muscle is again felt for, a vulsellum or tenaculum forceps is pressed into the tissues, the edges caught and fished out so as to be freed from the surrounding tissues (Fig. 1). The same is done on the opposite side. The two portions of the muscle are thus made to stand out prominently, are under perfect control and may be examined and united under guidance of the eye (Fig. 2).

It seems to me that some such exposure of the levator ani should be the basis of every operation for repair of the perineum, at least where there is relaxation or a rectocele. We can not but acknowledge that it is a rational procedure, provided we concede the paramount importance of the levator ani.

How the edges shall be brought together makes little difference and may be left to the choice of the operator, but the point insisted on is that, in some way, they be exposed and directly united.

THE SUTURE.

In considering how the parts may best be united, it develops that a great deal of trouble has been experienced with the suture. Probably more varieties of suture have been suggested for perineorraphy than for any other one operation. The reason for such a great variety is to be found in the common experience of operators. They find that the sutures fail to hold, or cut into the tissues, or produce stitch abscesses, or in some cases even bury themselves completely.

The difficulties are due partly to the impossibility of protecting the perineal region from rectal, bladder and vaginal discharges. But my own experience and study of the subject lead me to believe that failure is most frequently due to the use of interrupted sutures. Sutures that are tied necessarily interfere more or less with circulation. How can any tissue live that is packed with many closely set, tied sutures, as is recommended in many operations?

The unyielding nature of the interrupted suture is the most serious drawback to its use in perineal work, for any slight swelling causes it to cut into the tissues and open up avenues of infection.

Buried sutures in the perineum are always objectionable, because even in the hands of the most careful they may become infected and cause failure.

A suture inserted in the perineum ac-

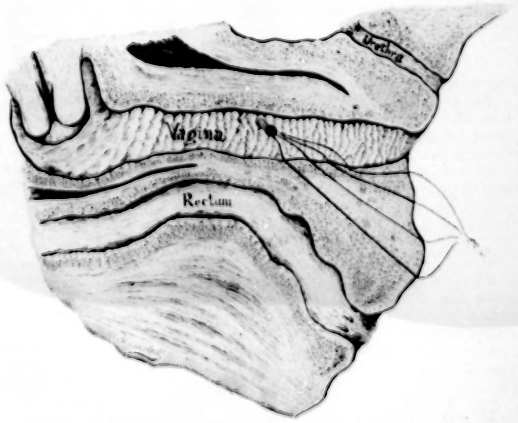

Fig. 6.—Relations of sutures and method of clamping.

Fig. 7.—Operation completed.

cording to the following technic appears to obviate the chief objections to both the buried and the interrupted suture, and at the same time allows for swelling.

Silkworm gut is used. Passing through the apex of the triangular denudation (Fig. 3,) the suture is inserted with a mattress stitch, from side to side, in the deepest portion of the wound. In passing by the exposed levator ani fibers (still held by vulsella) it passes through the edges of each two or three times. It then continues in the deep portion of the wound, taking up next the tissue over the denuded ends of the superficial perineal muscles. Finally it emerges through the skin, on the perineal surface, just above the lower angle of the wound. It is then drawn taut approximating the tissues. A second and third are passed in similar fashion, each taking in a portion of the levator ani, one above the other (Figs. 4 and 5). As each suture is drawn taut, the tissues come together, bringing the denuded surfaces in contact.

The fourth suture is submucous and serves for a final closure of the wound. When all the sutures are inserted and drawn taut they have the relations shown in Fig. 6.

The most important feature of the suture is the method of fastening the ends. After making certain that the sutures are all drawn taut, the vaginal ends are gathered into a single shot and clamped from half an inch to an inch away from the surface. The perineal ends are then likewise clamped about the same distance from the surface.

This device allows for swelling. While the sutures keep the parts firmly in contact, yet if any swelling occurs the tissues simply slide along the free ends toward the shot, taking up more or less of the slack.

The appearance of the parts when the operation is finished is shown in Figure 7.

In removing the sutures, which is usually done on the tenth day, the shot within the vagina is seized and the sutures cut off close to the surface. The perineal ends are then grasped and pulled out.

By this method of suturing the perineum is built up layer by layer and the surfaces approximated evenly, without tension and without constriction of the circulation. The consequence is that the tissues are in the best possible condition for immediate union.

In case swelling occurs, the sutures can not injure the tissues by cutting into them or cutting out. The surfaces are still kept in contact against the time when subsidence of the swelling or inflammation permits the healing to proceed.

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DISCUSSION.

DR. J. H. CARSTENS, Detroit, said that the pelvic organs are not supported by muscle. Muscle never supports anything. It is the fascia, the tissue between the muscles. Muscles simply stretch out and they get shorter, but they can not hold anything by themselves; and so it is with the uterus. It is the pelvic fascia, the fascia between these various layers of muscle that make the perineum strong. Dr. Somers talked as though the tear is always in the center of the perineum. That is the case only occasionally. The perineum tears all over, in all directions, according to the strength of the muscle. The tear is ragged and depends on the position of the presenting part. All these things have to be borne in mind. There is no one correct way of repairing a torn perineum. It depends on the individual case. Sometimes one must put in the sutures one way and sometimes another. To restore a torn perineum the surgeon must be an artist. In operating immediately after delivery, before the muscles have had a chance to retract, with a large *en masse* suture one may be able to bring the muscles together pretty fairly. But this can not be done after the muscles have retracted. If the ends are pulled together, the probability is that they will not be in perfect apposition with each other. If the tear is on one side and ragged, this method will fail utterly. Dr. Carstens declared that a catgut ligature can not be inserted as Dr. Somers described, and challenged anyone to do it. The suture straightens out and then cuts through the tissues. All silkworm-gut ligatures, no matter how they are put in, will get round. Dr. Carstens criticised the big flap made by Dr. Somers, and said that it stretches and contracts, and if the woman becomes pregnant again there is not enough elastic tissue to stretch out and the perineum is bound to tear again. The surgeon has no more business to remove any of the mucous membrane and submucous elastic tissue in a vaginal operation than in a hare-lip operation. The flap-splitting operation of Tait is good, but it is too much like butchery. That was one of Tait's distinctive characteristics; he lacked the delicacy of touch that a gynecologist should have. He put in a big *en masse* stitch with a big needle that looked like a poinard, and then

he wondered why the woman had pain after the operation. One can perform a delicate flap-splitting operation, sometimes going nearer to the vagina and sometimes nearer to the rectum. In performing this operation, the flap is dissected out and lifted up two inches or two and a half inches, so as to get beyond the scar tissues. That gives a big opening. If the rectal muscle is torn, it is drawn together with dry sterilized catgut. Then the perineal muscles are sewn together separately, the fascia is brought forward together with the muscle on either side, little sutures are put in or run together with a little needle, bringing together one muscle after the other, and, finally, when the tissues are in contact, then, with a running stitch of fine catgut, the skin is brought together, and the whole structure is restored, muscle to muscle and fascia to fascia. There is no cutting or giving way of sutures and the woman has no pain. There is no tension on the sutures, no tearing out of sutures.

Dr. H. O. Marcy, Boston, said that the repair of the perineum seems to be the *bete noire* of obstretric surgery. All gynecologists certainly should agree on the general principles of the operation, though even these do not seem to be well recognized. He said that all must agree with Dr. Carstens regarding the importance of the fascia as well as of the muscles. The site of the rupture will necessarily vary, as the direction of the force is not uniform. The pelvic floor in both sexes is made up of muscles and fascia blended together and wrapped and reinforced by connective tissue. When these tissues are torn asunder they must be restored as nearly as possible to their former condition. In order to reunite the separated transversi, the vagina must be separated from the rectum. This separation should be carried to the crest of the rectocele by a free open dissection. It is done best by dilating the sphincter ani and keeping the parts tense with the fingers in the rectum until the operation is finished. In this way the muscles are easily brought into view, and Dr. Marcy thinks that they are best reunited by a double continuous suture of kangaroo tendon, applied by means of a needle with an eye near the point, which is especially designed for this purpose. A shoemaker's stitch coapts and does not constrict the parts. A light running absorbable suture coapts the superficial tissues, building up the perineum to its normal depth. The skin is evenly joined on the median line and the line of suture is covered by a few fibers of absorbent cotton, wet with contractile iodoform collodion. This makes an effective antiseptic scab. With proper care, primary union will result. Recently a surgeon saw Dr. Marcy operate, and asked the matron of the hospital how many failures Dr. Marcy had in his operations, and he was told that not one failure had occurred in seventeen years.

Dr. W. F. B. Wakefield, San Francisco, declared himself thoroughly in accord with Dr. Somers, and with Dr. Carstens, whom, he thinks, has entirely misunderstood Dr. Somers. The only difference Dr. Wakefield can see in their technical construction is that Dr. Somers removes more mucous membrane than Dr. Carstens does. Dr. Wakefield has used Dr. Somers' method many times, with excellent results. He thinks Dr. Carstens' method will produce equally good results.

Dr. E. D. Ferguson, Troy, N. Y., said gynecologists must not lose sight of the fact that both muscle and fascia are essential to the perineum and pelvic floor. Dr. Carstens spoke of the inadequacy of the muscle, but there is the same inadequacy of the fascia. Both these structures must be brought together by interrupted or other sutures. The fascial tissues, if subjected to continuous pulling, will stretch. No muscle will stand continuous traction. It has a voluntary function. The result is that if one depends on fascia, it will elongate. If one depends on muscle alone, it will lose its power; but the muscle can contract and rest the fascia, and a long-continued traction will not produce a permanent loss of function if muscle and fascia can take each other's place.

Dr. Charles S. Bacon, Chicago, said that some years ago little was said about repair of the levator ani muscle, only about repair of the perineum. That, of course, is a mistake, and may lead to some errors in the consideration of this question. The levator ani muscle is extremely important, but a very essential part is also the muscle of the urogenital trigone. Between the fascia of this structure there is muscular tissue which has been divided into different layers. This muscle closes up that part of the pelvic outlet which is not closed by the levator ani, and through it pass the vaginal and urethral tubes. This must be considered in the repair of the lacerations of labor. Dr. Bacon stated that the structure of the urogenital trigone is very thick, and in a repair it must be brought together very carefully, and it occurred to him that it would not be repaired so well by Dr. Somers' method. The direction of the fibers is quite different from that of the fibers of the levator ani muscle; so that even if the method is a good one for the repair of the levator ani, it might fail to bring together the urogenital trigone structures. One would also suppose that this longitudinal suture would not bring together well the levator ani and its fascia. That, however, is a matter to be determined only by experience. One thing that should be emphasized, Dr. Bacon said, is the mistake that Dr. Carstens made in saying that the essential thing is the fascia and not the muscle fiber. Undoubtedly, the fascia is important, and one can not unite the muscle without bringing the fascia together, but to claim that the fascia is all-important is certainly a mistake. Fascia will not hold unless there is muscle. It is only the muscle of the natural ligaments of the uterus that holds. The fascia alone will not hold in the repair of the abdominal incision. The muscles must be united. Muscle tissue everywhere is of extreme importance for obtaining permanent results, and fascia is only the support of the muscle. While he agreed with Dr. Carstens in his technic, Dr. Bacon thinks it is a mistake to claim that the fascia is all-important.

Dr. F. T. Andrews, Chicago, said that while Dr. Somers has described a very beautiful operation for the repair of the perineum, a perineum is not worth anything unless it is in the right place. The levator ani muscle with its fascia is the thing to which attention must be given, but this muscle, after a laceration, has one large opening in it. The baby's head has come down through the pelvis. There are no tissues, practically, in the pelvis. The coccyx is crowded back. The anus is two inches below the coccyx and fully as far back, and the tissues are all crowded outside. The muscle and its fascia are no longer perfect. That has not all happened at once; there has been a long-continued pounding and stretching of the tissues. If that perineum is repaired by picking up the ends of the muscle and fascia and bringing them together, there is no longer a shallow bowl, but a deep funnel. The tissues have not been lifted so as to support the organs within. One can not accomplish the desired result by bringing the tissues together; they must be denuded in order to get down to the muscle and fascia and to put in the stitches so that every stitch draws the tissues forward. By measuring from the pubes, it will be found that the rectum is too far back; so, too, the vagina. The stitches should be passed so as to carry everything upward and forward. The laceration should be so repaired that there will be sufficient obliquity in the vaginal axis. To do this, the traction of all stitches should be upward and forward, thus restoring to the levator ani muscle its original shape, that of a shallow bowl.

Dr. A. R. Kiefer, St. Louis, believes that the reason operators differ in this matter is that there does not seem to be sufficient knowledge of the normal anatomy of the perineum. Much has been said about bringing the fibers of the levator ani muscle together. Normally, there is very little interlacing of the fibers of this muscle until it gets back to the rectum. Therefore, in an ordinary laceration of the perineum, very few fibers of the levator ani are torn. These muscles are held in close relation by the intervention of fascia, as mentioned by Dr. Carstens. These accurate descriptions of replacing the levator ani muscle fibers in the median line are amiss. Dr. Kiefer agreed that the thing to do is to try to replace the parts just as they were before the injury; therefore, there can be no uniform manner of denudation or of placing the sutures, because there is no uniform manner of laceration. He finds that sometimes he can use large stitches to advantage, and sometimes small ones. If, however, one introduces the large suture, beginning on the surface and picking up only

the superficial portions of the denuded surface, it will result in a small area of included tissue which pulls the skin inward, and there will be a small perineum.

DR. G. B. SOMERS declared it seems that we are still at sea as to what is really necessary to be done in repairing a lacerated perineum. The anatomy and function of the perineum are not understood. He does not maintain that one operation is better than another, but he does maintain that before repairing a perineum we must establish certain definite principles as a working basis; we must have an anatomic rather than a pathologic basis. One can build up a perineum by any one of about forty methods so as to get a good looking perineum, but the point is: Will that perineum last? With the Emmet or Hegar or Tait operation he has found that after six or eight months the tissues have stretched, because pathologic and not normal structures have been used. The first point he tried to demonstrate was the importance of the levator ani muscle. It is the most important muscle of the perineum, and unless the surgeon is convinced of that the operation is a useless one. The sphincter action of this muscle must be restored so as to maintain the closure of the vaginal walls, keeping the anterior wall in contact with the posterior. Dr. Somers expected to be misunderstood in many of the points he tried to make, and he expected that some one would bring up the old point of the difference between the muscle and the fascia. This shows that there is a lingering idea that the function of the perineum depends on the strength of the tissue of which it is composed, rather than on its sphincter-like action. No muscle is of value apart from its fascia, so that when in speaking of a muscle, one must also consider its fascia. The levator ani has rectal as well as vesical fascia, and both are important. It is true that tears rarely occur in the median line, and Dr. Somers' demonstration was as to the ultimate results of a tear in one of the sulci. The majority of lacerations occur in the sulci. He maintains, however, that the fibers gradually retract and atrophy, so that ultimately the conditions are the same as if the tear had been in the median line. With reference to the importance of the superficial muscles, he said that in the majority of women who have borne children, these are torn and the vulva gapes open, exposing more or less the entrance to the vagina, but a little farther within it is perfectly plain that the vaginal walls are held together by a strong band of levator fibers, and as long as these are intact there is neither rectocele nor cystocele. If one believes that the levator ani muscle is the principal portion of the perineum, and that the function of this muscle should be restored, then he must have some way of uniting it. Simply to use the Hegar or Emmett operation does not provide for a direct union of the two edges of the muscle. Dr. Somers' chief object in presenting the paper was to show an easy method of restoring the function of this muscle.

TYPHOID FEVER IN CHILDREN.*

WILLIAM J. BUTLER.
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REVIEW OF LITERATURE.

The symptom-complex of typhoid fever seems to have been recognized by the earliest observers; not, however, under its present name, but by a number of different ones, derived from various characteristics of the disease, viz., from the character of the fever and its duration, from the predominance of nervous or intestinal symptoms, from septic manifestations, from its resemblance to other fevers, from its mode of prevalence, and from its supposed origin.

Hippocrates[1] description of a fever observed by him would form an excellent clinical picture of what we now term typhoid fever.

From Spigelius, in the seventeenth century, to the present time, various writers have described a disease which, clinically and pathologically, resembled typhoid fever.

FREQUENCY OF TYPHOID IN CHILDREN.

The occurrence of typhoid in children appears to have been an early observation. It seems quite impractical, however, to arrive at any accurate estimate of its comparative frequency for many reasons, unless we refer to statistics obtained in epidemics taking place in small towns. The following statistics may prove of interest in this direction:

Franque found in Nassua, in 31 years, among 11,028 cases of typhoid, 2,021 under 10 years. Gaultier de Claubery[2] found 31 per cent. under 15 years, out of 7,348 cases. Baginsky,[3] in 50 cases in a local epidemic, reported 16 under 10 years. Rosenthal, in a village epidemic, observed 28 under 10 years in 115 cases. Schadler,[4] under similar conditions, found 11 under 10 years, out of 144 cases. Murchison[5] reported 28.5 per cent. of 5,911 cases under 15 years. Curschman[6] reports 27.7 per cent. of his Leipsic cases occurring in children, and 11 per cent. of his Hamburg cases.

The above data does not admit of any accurate deductions as to its comparative frequency, except possibly the statistics of Rosenthal, Baginsky and Schadler, based on observations in localized epidemics. But even under the circumstances it is probably not infrequently overlooked in sucklings.

While typhoid in children is far more frequent in later periods of childhood, its occurrence in the earliest months, and even *in utero*, was early recognized, as indicated by the reports of Abercrombie, Charcellay, Mazzini, etc.

Innumerable reports have since appeared, which certainly represent but a small fraction of cases that have actually occurred. The fact remains, however, that it is comparatively infrequent when compared with later periods of childhood.

Wünderlich[7] states that it was seldom found in infants, but increased in frequency in children from 2 to 6 years of age, reaching its maximum for childhood in the latter year.

Montmollin[8] reported the greatest frequency from 6 to 12 years.

Table 1 gives more recent data quoted by Curschman[6] from Oldenburg Children's Hospital of St. Petersburg, from 3,504 cases of typhoid in children.

TABLE 1.—TYPHOID CASES IN CHILDREN'S HOSPITAL, ST. PETERSBURG.

Between 1 and 6 months	.26	per cent.
Between 6 and 12 months	.90	per cent.
Between 1 and 2 years	4.94	per cent.
Between 2 and 5 years	42.3	per cent.
Over 5 years	51.5	per cent.

INFLUENCE FORMERLY ATTRIBUTED TO SEX.

Some of the earlier pediatricians attributed to sex a considerable influence in the predisposition to typhoid, as instanced by the following statistics:

Taupin reported 121 cases, of which 86 were boys and 35 girls. Rilliet and Barthez reported 111 cases, of which 80 were boys and 35 girls. Löschner,[9] in 104 cases, reported 62 boys and 42 girls. Friedrich, in 275

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Hippocrates: Quoted from Murchison's Treatise on Continued Fevers.

2. Gaultier de Claubery: Rap. sur les épidémies qui ont régné en France de 1841: Mem. de l'Acad. de Méd., vol. xiv, 1849.
3. Baginsky: Virchow's Arch., vol. xlix.
4. Schadler: Diss. inaug., Solothurn, 1854.
5. Murchison: Treatise on "Continued Fevers."
6. Curschman: Nothnagel's "Encyclopedia of Practical Medicine." Typhoid and Typhus Fevers.
7. Wünderlich: Arch. f. physiol. Heilkunde, 1857, vol. i.
8. Löschner: Prager Vierteljahrsschrift., 1846.

cases, 149 boys and 126 girls. Friedleben,[9] on the other hand, found greater frequency in girls; in 98 cases there were 46 males and 52 females. Murchison considered that the predominance of one sex in different hospitals is determined by accidental circumstances.

Baginsky[10] states that, in general, boys are more frequently attacked than girls. Curschman writes that both sexes are attacked with equal frequency.

Of my 210 cases, 106 were males and 104 females.

THEORIES OF CAUSATION.

It is quite interesting to note that of the earlier writers on the subject some believed typhoid contagious, while others took an opposite view. They called attention to its development in people recently arriving in localities where the fever was endemic. In Germany many referred it to poor hygienic conditions, foul air, damp, dark dwellings, and impure and improper food. At the same time they doubted its contagiousness.

In the first half of the last century, von Gietl,[11] of Munich, taught that it was disseminated by the feces of typhoid patients. Piedvache[12] (1849) came to the conclusion that, under certain circumstances, it was contagious. His chief argument was that, when one individual was attacked, many other cases often followed in the same house or district. Bühl[13] and Pettenkoffer[14] originated and advocated the ground-soil theory. Taylor,[15] in 1858, in England, reported an epidemic caused by cow's milk. Murchison advocated the theory of its dissemination by air and water polluted with decomposing sewage and other forms of putrefying animal matter.

Budd[16] believed the typhoid poison a specific agent, which, instead of developing, according to Murchison's theory, outside the body, was discharged with the stools. It, therefore, could not occur without the existence of a previous case. He further stated that if the specific poison in the stools could be destroyed the spread of the disease would be checked.

Gerhard, some years later, wrote that, while man does not possess a microscopic recognition or reagent for typhoid poison, if water contains more than a trace of ammonia and organic constituents, or more than four parts out of a million of saltpeter, it must be regarded as unfit for use and a capable vehicle of infective material. He considered the fever contagious in so far as long and constant contact with typhoid patients results in the transfer of the disease. Gerhard was also of the opinion that it could be transferred *in utero* by a healthy mother, analogous to variola, on the basis of cases reported by Schadler and Herard.[17]

It would seem that all that was lacking in Budd's theory, as suggested by Curschman, was the discovery of the bacillus, which occurred in 1880, being found by Eberth[18] in the intestinal lesions and spleen. It was later isolated by Gaffky,[19] and its morphology and cultural properties thoroughly described. Since then an enormous mass of literature has accumulated in the study of the bacillus which has brought forth many points of value, among others its occurrence in the stools, the comparatively frequent presence of the bacillus in the urine of typhoid patients, determining the infectious character of the excreta and the necessity of disinfecting the same.

Although much has been written on the tenacity of the typhoid bacillus outside the body under dry and moist conditions, and the possibility of its conveyance to the individual in dust, it is highly probable that practically all cases occur either by direct accidental conveyance from typhoid patient to those in immediate contact, through hands or articles being brought to or into mouth, when soiled by discharges of patient, or, which is by all odds the most frequent, the contamination of water or food by the typhoid bacillus.

The discovery of the agglutinating power (Widal[20] reaction) of the blood of typhoid patients or immunes on the bacillus itself has proved invaluable as a diagnostic resource, and likewise the isolation of the bacillus from the blood.

PATHOLOGY.

Taupin[21] and Rilliet[22] were the first to give special study to the anatomic changes in typhoid in children, with the view of determining any difference that might exist between those found in childhood and adult life.

Rilliet came to the following conclusions, among others:

"1. In children are found the lesions of Peyer's patches, the solitary follicles and mesenteric glands, such as are noted in the adult, but the ulcerations are smaller, fewer in number and more superficial. 2. Ulceration is not necessarily the result of phlegmasia, as it may end in resolution. 3. Cicatrization takes place rapidly. 4. Ulcerations of mucous membranes elsewhere are rare."

Gerhard stated that the changes in the bowel in childhood could deviate essentially in their development and extent from those found in adults. He believed, with Rilliet and Friedrich, that ulceration seldom took place between the second and seventh years, although occasionally found in sucklings. When ulceration did occur, the ulcers were few in number, but sometimes deep, even to the extent of perforation.

It was the general opinion of the earlier writers that the intestinal lesions were not numerous; that, as a rule, absorption of the hyperplasia, without proceeding to ulceration, occurred; that when ulcerations took place they were fewer in number, of slight extent and usually superficial, rarely progressing to the extent of perforation. As a result, local complications depending on the ulceration of the intestinal lesion were rare, as hemorrhage and perforation. Montmollin, on the other hand, reported ulceration in 77 per cent. of 23 cases in which autopsy was performed.

The enlargement of the mesenteric glands adjacent to the intestinal lesions presented no deviation to those found in the adult.

Barthez and Rilliet[23] found the spleen of normal size in about one-third of their postmortem cases. Barrier, Löschner, Friedleben and Bednar[24] reported it invariably enlarged. Gerhard wrote that the enlargement of the spleen can fail. The cause of this may be early death, or it may be the result of hemorrhage.

9. Friedleben: Griesinger's Arch., 1848, No. 1.
10. Baginsky: Lehrbuch des Kinderkrankheiten.
11. Von Gietl: Constatts Special Path. and Ther., vol. ii, 1847.
12. Piedvache: "Recherches sur la contagion de la Fièvre Typhoide," 180.
13. Buhl: Zeitschrift f. Biologie, vol. 1, 1865.
14. Pettenkofer: "Boden und Grundwasser in Ihren Beziehungen zu Cholera und Typhus," Munich, 1869.
15. Taylor: Edin. Med. Jour., June, 1858.
16. Budd: Lancet, 1856, vol. ii.
17. Herard: L'Union, 1855, No. 91.
18. Eberth: Virchow's Arch., vol. lxxxiii.
19. Gaffky: Mittheilungen aus dem kais. Gesundheit's Amt., vol. ii.
20. Widal: Bull. Méd., 1896.
21. Taupin: Jour. des con. med. chir., 1839.
22. Rilliet: Arch. Gen. de Méd., ser. 3, vol. ix, 1840.
23. Rilliet & Barthez: Arch. Gen. de Méd., 1846, 3 s. ix.
24. Bednar: "Die Krankheiten der Neugeborenen und Saüglingen," Vienna, 1850.

The liver is frequently enlarged and usually pale in color, turbid on section, and showing microscopically granular and fatty degeneration.

Respiratory Organs.—Laryngeal ulcers are rare, except in late childhood. They occur on the posterior wall at the insertion of the vocal cords, on the aryepiglottidean folds, and at the base of the epiglottis. A varying grade of bronchitis is common. Atelectasis is relatively frequently observed, resulting from severe bronchitis; occasionally hepatized patches, in some instances involving a whole lobe, are found. Hypostasis is rare, on account of the shorter course of the disease, as a rule. Taupin reported hemorrhagic infarct and gangrene of lung. Rupture of lung abscess into pleural cavity was reported by Löschner.

Kidneys.—The kidneys may show cloudy swelling with granular degeneration of the cells of the convoluted tubules. Seldom a nephritis develops. Rarely miliary abscesses of the kidney, or diphtheritic inflammation of the pelvis of kidney.

Heart.—Endocarditis and pericarditis are very uncommon. Of comparative frequency is myocarditis, which Rhomberg[25] reported existed in about 50 per cent. of all cases which came to autopsy. Endarteritis with gangrene are narrated by Trousseau,[26] in Baudelocque's and Patry's cases, one in a child of 10 years, the other in one of 12.

Nervous System.—Actual meningitis has been reported, and from the exudate which may be serous or purulent the typhoid bacilli have been recovered. Parenchymatous changes may be found in the peripheral nerves. The muscles often show the waxy degeneration of Zenker, and this is most frequently found in recti abdominis, adductors of thigh and pectoralis.

SYMPTOMATOLOGY.

In 210 cases here reported the children presented symptoms for some time, varying from a few days to ten days, before coming under observation. The average period was seven days. The symptoms noted during this time were as follows: In very young children, restlessness and irritability were frequently present at first. In many, however, there was drowsiness, with tendency to sleep a great deal. In older children, drowsiness, weariness, sometimes irritability, restless sleep, dizziness and buzzing in ears were noted. Headache was complained of in the majority of children old enough to localize pain, being present in 151 cases. Delirium was observed in several cases during this period.

Vomiting had occurred in 57 cases, in some once or twice at most; in others several times. In two cases it was more or less constant throughout the disease, both terminating fatally. Many of the earlier observers considered vomiting at the onset, especially when associated with constipation, as an unfavorable symptom, pointing toward a severe course.

With the beginning of temperature, thirst was invariably increased, and anorexia appeared.

Colic was complained of in 47 cases. In many of these the pain was more or less constant, and localized at the umbilicus or in the right ileocecal region. Other children with diarrhea complained of pain just before evacuations only. Colic seldom continued beyond the middle of the first week. In many a sensitiveness to palpation in the right ileocecal region persisted throughout.

Of 107 patients in whom the condition of the bowels was ascertainable, 69 had diarrhea, 31 constipation, and 7 were irregular. Chilliness was occasionally observed at onset, a history of chills being obtainable in 31 cases only. Friedrich noted chills in 6 of 83 cases.

Epistaxis does not appear to be so frequent during the onset in children as in the adult, it being found in only 29 of the 210 cases.

A slight angina was present in 3 cases; opisthotonos in 4 cases, and strabismus occurred early in 1 case.

SYMPTOMS AND SIGNS OBSERVED DURING THE COURSE OF THE DISEASE.

Anorexia was invariably present.

The tongue usually presented a whitish fur, with clean borders and tips, later becoming grayish or yellowish-brown and dry. In the severe cases, crusts appeared on the lips; the mucosa of the mouth looked swollen and turgid and bled easily. Sordes formed on the teeth if not cared for. A mercurial stomatitis occurred in one patient who was receiving calomel. A gangrenous stomatitis or noma was not found in any case. Extension of infection along the Eustachian tube, with resulting otitis media, was not uncommon, accompanied by more or less impairment of hearing.

Vomiting occurred in 28 cases during the course of the disease. In 13 of these it had been present at the onset. While vomiting at the onset would not seem necessarily to indicate a severe attack, its occurrence during the course of the disease seems to be of considerable significance, as suggested by the following case reports:

CASE 143.—The patient vomited occasionally, had hemorrhages on the thirtieth and thirty-fourth days, and died in collapse eight days later.

CASE 101.—The child vomited on the tenth and thirteenth days. On the fourteenth day perforation occurred, the patient dying two days later.

CASE 159.—The child vomited on the seventeenth day; on the nineteenth day peritonitis developed. On the twenty-third day there was a copious hemorrhage and the child died the same day.

CASE 4.—The child vomited the day before the hemorrhage The case terminated in recovery.

CASE 39.—The child vomited on the fourteenth day and had a hemorrhage the same day.

In two cases in which vomiting was an initial symptom, the patients continued to vomit throughout, both dying, one in the first week, the other in the second. While vomiting occasionally resulted from administration of expectorants or as result of transient disturbance of the stomach, in many cases it seemed to antedate a serious complication.

Condition of Bowels.—The bowels in 184 patients, in whom this point was accurately noted, were constipated in 100 cases, and in 84 there was diarrhea. The stools in the young children were thin, yellowish-green in color, and sometimes slimy and curded. In older children they were of the characteristic pea-soup variety. Rilliet looked on constipation at onset as of serious prognostic significance. In the fatal ones of the 210 cases, the condition of the bowels is shown in Table 2.

TABLE 2.—CONDITION OF BOWELS IN THE FATAL CASES IN THE SERIES OF 210.

	At onset.	During course.
1.	Constipation.	Constipation.
2.	Constipation.	Diarrhea.
3.	Constipation.	Diarrhea.
4.	Constipation.	Diarrhea.
5.	Regular.	Constipation.
6.	Constipation.	Diarrhea.
7.	Constipation.	Constipation.
8.	Diarrhea.	Diarrhea.
9.	Constipation.	Diarrhea.
10.	Constipation.	Diarrhea.
11.	Constipation.	Diarrhea.

While constipation was present in 9 of the 11 fatal cases at the onset, it can hardly be considered of special

25. Rhomberg: Deutsches Arch. f. k. Med., 1891.
26. Trousseau: Clinical Med., vol. II

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prognostic significance, as many cases of constipation run a mild course, and, *vice versa*, many cases beginning with diarrhea run a severe course.

Abdominal pain, though not infrequent at the onset, is seldom complained of after the first week, except in cases developing complication.

Tenderness in the ileocecal region and gurgling are often found. Seldom, however, is the tenderness severe. Exquisite tenderness usually points toward involvement of the peritoneum.

Tympany of varying degree was present in most of the cases after the first week, in some forming quite an annoying symptom and persisting into convalescence.

Spleen.—The spleen was palpable in 134 out of 148 cases. Three were enlarged to percussion, but not palpable.

The enlargement of the spleen is usually found toward the end of the first week. It seldom extends much below the rib arch and usually maintains this size during the course of the disease, and sometimes after drop of temperature, which not infrequently signalizes a relapse.

Variations in the size of the spleen are occasionally noted during the course of the disease. Decrease in size following profuse intestinal hemorrhage (Gerhard) or after marked remission in temperature (Thierfelder)[27] is seen.

Skin.—Roseola were found in many cases at the first examination; seldom, however, before the sixth day of the disease. As a rule, the rose spots are not numerous, though in some cases quite profuse. The abortive and mild cases generally present few rose spots or none at all. In one mild case no rose spots were found, although daily sought. A severe relapse followed, and on the eighth day a profuse eruption appeared on the abdomen and chest. In another case that pursued a mild course there was an eruption over the entire body and face which persisted for several days, and a fine desquamation followed. This case gave a positive Widal reaction.

This would seem to indicate that no definite statement can be made as to the extent of the eruption in mild and severe infections. Roseola were found in 115 of the 210 cases.

Herpes was present in 3 cases. One of these was complicated with pneumonia. In another the herpes was observed during a relapse.

Sweats were not infrequent, and likewise sudamina, appearing chiefly on the abdomen and chest.

Respiratory Tract.—Epistaxis occurred in 12 cases during the course of the disease. In one, several times. In this patient there were repeated intestinal hemorrhages, which terminated fatally. While the respiratory rate was usually somewhat increased, as a rule, it was not accelerated beyond its normal ratio to the pulse rate, unless pulmonary complications developed. A slight cough was noticeable in a large proportion of the cases. This usually persisted through the greater part of the attack. Actual auscultatory signs of bronchitis were not found in more than half the cases.

Temperature.—As many of the typhoid cases in children are of the mild form, the temperature curve in them is a short one, and, being of shorter duration but possessing the peculiarities of the typhoid curve, both end stages are steeper and shorter and the course in general less regular. While this is true for a little more than half the cases, 82 of the 210 cases ran a temperature lasting from 18 to 55 days, and in 90 there was a temperature for less than 15 days.

Among these cases 16 might be regarded as abortive, in that the patients had a temperature for ten days or less, and were not ailing more than a week before coming under observation.

The average duration of the temperature in all cases was 17.3 days.

The maximum temperatures observed in number of cases given are shown in Table 3:

TABLE 3.—SHOWING MAXIMUM TEMPERATURE AND NUMBER OF CASES.

107.4 degrees.	1
106 . degrees.	3
105 to 106 degrees.	60
104 to 105 degrees.	79
103 to 104 degrees.	42
102 to 103 degrees.	13
101 to 102 degrees.	6

Pulse.—The disproportion first noted by Roger[28] between the pulse rate and temperature observed in adults holds good for later childhood, but in very young children it runs more or less parallel with the temperature (Table 4).

TABLE 4.—THE AVERAGE PULSE RATE FOR DIFFERENT AGES SHOWING A STEADY DECREASE WITH FEW EXCEPTIONS FOR EACH SUCCESSIVE YEAR.

Age.	Average minimum pulse rate.	Average maximum pulse rate.
1 year.	124	150
2 years.	118	148
3 years.	117	155
4 years.	106	139
5 years.	104	138
6 years.	101	124
7 years.	104	136
8 years.	101	130
9 years.	99	129
10 years.	100	127
11 years.	100	129
12 years.	108	131
13 years.	90	114

A dicrotic pulse was seldom found, the youngest child showing it being a boy of 4 years. Irregularity was occasionally observed at height of attack.

Blood.—Blood counts were made in many cases, chiefly with regard to the leucocytes. In a number of those complicated with hemorrhages, red counts and hemoglobin estimates were also made.

The weekly average counts of leucocytes were as follows: First week, 6,571; second week, 7,200; third week, 6,740.

The average count for the first week corresponds quite closely to that given by Thayer[28] of 6,442. The counts in the second and third week were probably not numerous enough to be of accurate value. The extremes in leucocyte counts in first week were 3,200, 12,600; second week, 4,400, 9,600; third week, 4,000, 10,000.

A few counts made in cases following hemorrhage, perforation and pneumonia are of interest.

CASE 69.—Hemorrhage nineteenth day. Count after hemorrhage: Whites, 15,800; reds, 3,840,000; hemoglobin, 95 per cent.

CASE 5.—Hemorrhage fourteenth day. White counts on sixteenth day gave 4,500.

Counts following perforation:

CASE 53.—Perforation. Leucocyte count immediately following perforation was 10,800; later in day, 8,800.

CASE 101.—Perforation occurred on the fourteenth day. Count after perforation was 21,600; on the eleventh day it was 17,600.

CASE 177.—On the first day the whites were 5,200. On the sixth day of relapse there was abdominal pain (peritonitis). At 11 a. m. the whites numbered 7,000; at 4 p. m., 8,400.

CASE 191.—On the twelfth day of relapse perforation occurred. Shortly thereafter the whites numbered 8,200; later in the day, 6,000.

CASE 127.—On the tenth day bronchopneumonia set in; on

27. Thierfelder: Arch. f. phys. Heilk., xiv.

28. Thayer: Johns Hopkins Hosp. Reports, vol. viii.

the fifteenth day the whites numbered 2,500; death occurred on the seventeenth day.

Case 183.—Pneumotyphoid. On the fifth day the whites numbered 10,800.

Case 43.—On the first day of pneumonia, the thirty-ninth day of typhoid, the whites numbered 18,500. The case terminated in recovery. There were 3,820,000 reds, 4,668 whites, small mononuclear, 7 per cent.; large mononuclear, 3 per cent.; polynuclear, 90 per cent.; hemoglobin, 90 per cent., at first examination.

Widal Reaction.—The Widal reaction was made in 96 cases, with the following result:

Eighty-six were found positive; 10 were found negative. Of the negative reactions, in 2 it was tried on the first day; in 1, on the second; in 3, on the third; in 2, on the sixth; in 1, on the eleventh; in 1, on the fifty-fourth, after coming under observation.

The negative results can not be regarded as of much value in these cases, as only one or, at most, two trials were made. The negative result recorded on the fifty-fourth day was a week after the drop of temperature to normal.

Of the positive results, 40 were obtained within the first four days after coming under observation. In some a positive reaction was delayed beyond a time when it would ordinarily be considered of much diagnostic value, as instanced by the following:

Case 177.—There was high temperature for eleven days. Four Widal tests made during this time were found negative. On the twelfth day the temperature was normal, when an indiscretion in diet occurred. Relapse followed, and on the second day the Widal was positive. Patient died on the thirteenth day of relapse from peritonitis and pneumonia.

Case 23.—The course was thirteen days, with high run of temperature. Widal test was negative on the second, seventh and eighth days; positive on thirteenth day, or last day of temperature.

Case 136.—The course was twenty days, with high run of temperature. Widal test was negative on second and fifth days, but positive on fourteenth day.

Case 55.—Widal test was partial on seventeenth day, but positive on twenty-third day.

Case 204.—First attack was mild—eighteen-day course. Widal test was negative on eighth day. A relapse of thirty-three days was very severe. Widal test was negative on tenth day of relapse and positive on sixteenth day.

Of these cases it will be noted that in only two could the result have been considered negative, it being found first during the relapse.

A sudden disappearance of the reaction was noted in one case.

Nervous System.—Headache was an almost constant symptom among the older children for the first week or two, being seldom complained of in those under 4 years. It was present in 157 of the 210 children. The very mild cases presented a few symptoms referable to the nervous system, beyond slight headache and dullness. The younger children who, at first, were frequently irritable and restless, later became more or less drowsy. In the moderate and severe cases, in general, there was invariably dullness, a greater or less degree of apathy and drowsiness.

Barrier, Friedrich[29], Seidel[30] and others called special attention to the drowsiness of children suffering from typhoid. Bierbaum[31] stated that drowsiness was a constant symptom, found in older as well as younger children. Gerhard looked on this symptom as characteristic, and considered it due to the narcotic effect of the typhoid poison on the brain.

29. Frederick: "Der Abd. Typhus der Kinder." 55, 1856.
30. Seidl: Jena Zeitschrift, vol. iv., Nos. 3-4.
31. Bierbaum: "Der Typhus im Kindlichen Alter," Leipzig, 1861

Fifty-two of the 210 cases presented delirium, in some patients only at night, while others were more or less continuously delirious for short or longer periods. In some, drowsiness alternated with delirium. Occasionally the delirious patients became quite noisy. In a few instances they passed into a stuporous condition, showing the typical *status typhosis.*

Involuntary defecations and urinations are common among these patients, and sometimes continue after the mind has apparently cleared.

Ataxia and jactitation were occasionally observed.

In a few cases marked meningeal symptoms developed, which will be considered under complications.

Genitourinary Organs.—The urine was invariably scant during height of the disease, increasing in quantity with the decline of temperature. An increased secretion of urea and uric acid and diminution in the chlorids were quite constant. Not infrequently albuminuria was found. An acute nephritis did not develop in any case.

Ehrlich's test was made in a large number of cases, with usually positive results. I do not, however, look on it as possessing any special diagnostic value.

RELAPSES.

Curschman states "it has been definitely settled that relapses are the result of a revival of the primary process. Undoubtedly their development is to be attributed to the entrance into the circulation of living typhoid bacilli, which after the primary attack are left behind in various organs, and associated with this more or less complete redevelopment of the local and general typhoid lesions occur."

While Trousseau did not believe that relapses or new attacks occurred, his explanation (made, of course, in antibacteriologic times) of the recurrence of symptoms is similar to the above. He wrote: "It is the same attack, the symptoms of which, temporarily interrupted, recur under the influence of the same morbid cause which produced it in the first instance." He further added: "However complete the symptoms may be, and although the eruption reappears, the characteristic intestinal lesions never recur."

It would seem that such a condition as described by Curschman might often result in typhoid septicemia, in which the local intestinal lesions might not necessarily result.

On the other hand, reinfection of intact Peyer's patches and solitary follicles from typhoid bacilli in the intestinal tract, under favorable conditions, possibly sometimes brought about by digestive disturbances, is not altogether improbable. The frequent close association of relapse and dietetic errors would seem to be more than mere coincidence

Statistics of later years seem to show a larger percentage of relapses in typhoid cases than in earlier times, when the custom of starving fevers was quite generally practiced.

Relapse seems to occur more frequently in children than in adults. Curschman, in analyzing his Leipsic and Hamburg statistics, states that relapse occurred in 13.4 per cent. of the adult cases and in 16.8 per cent. of the children. His Leipsic statistics considered alone show relapse occurring in adults in 12.5 per cent. and in 19.1 per cent. of the children. In striking contrast with the above is the statement of Gerhard that relapse occurs much less frequently in children than in adults.

Of my 210 cases, relapse occurred in 31, or 14.7 per cent.

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When relapse occurs in children, it seems to attack girls more frequently than boys. In the 29 relapses reported by Montmollin, 20 were in girls and 9 in boys. In my 31 relapses, 19 were girls and 12 boys.

Ziemssen[32] and Goth found that relapse more frequently follows mild and moderate attacks, about one-fourth of them following severe attacks. Curschman found it to occur 236 times after severe cases and 260 times after mild attacks.

Of the 31 relapses above mentioned, there had been a mild or moderate initial attack in 17 and a severe one in 14.

The period of intermission between the initial attack and the relapse, with the number of cases for each period in which it was definitely determinable, is shown in Table 5.

TABLE 5.—SHOWING PERIOD OF INTERMISSION BETWEEN INITIAL ATTACK AND RELAPSE.

Afebrile period.	Number of cases of relapse.	Afebrile period.	Number of cases of relapse.
1 day.	4 cases.	7 days.	3 cases.
2 days.	2 cases.	8 days.	1 case.
3 days.	3 cases.	10 days.	1 case.
4 days.	6 cases.	14 days.	1 case.
6 days.	3 cases.	21 days.	2 cases.

In 24 cases one relapse and in 2 cases two relapses occurred. The remaining 5 cases were of the recrudescent form.

COURSE AND TERMINATION OF RELAPSES.

Sixteen cases ran a mild course; 4 ran a moderately severe course; 11 ran a severe course; 5 cases terminated fatally, a mortality of 9.7 per cent.

MORTALITY.

The mortality of typhoid in children is considerably lower than in adolescence and in later life, increasing, as it does, with each successive decade. In common with the higher mortality of typhoid in general, in earlier years, that of children was given as quite high by the older pediatricians.

Of my 210 cases, 11 patients, or 5.2 per cent., died.

TABLE 6.—SHOWING AGE, SEX, CAUSE OF DEATH AND DAY OF DISEASE.

Sex.	Age.	Cause.	Day of disease.
F.	14 months.	Intensity of intoxication.	3d. day.
F.	5 years.	Perforation.	Sick 35 days; died on 12th day of relapse.
M.	7 years.	Broncho-pneumonia.	20th day.
M.	8. years.	Hemorrhage.	34th day.
M.	8 years.	Hemorrhage, asthenia.	33d day.
M.	9 years.	Perforation.	Seventh day after relapse. Sick 37 days.
F.	9 years.	Perforation	10th day.
F.	10 years.	Intensity of intoxication.	13th day.
M.	11 years.	Perforation.	18th day.
M.	12 years.	Peritonitis on 6th day of relapse. Lobar pneumonia on 13th day.	Sick 37 days. Died on 15th day of relapse.
F.	15 years.	Peritonitis 16th day. Hemorrhage 23d day.	23d day.

Of the 11 deaths, only one occurred under 5 years, the highest mortality being from 5 to 12 years. Few of the 210 patients were over 12 years, which accounts for the low mortality above that age.

Six of the 11 deaths occurred in males, or 5.6 per cent., and 4.8 per cent. in girls. This is usually reversed, and a higher mortality found in girls. It would seem that sex had but little, if any bearing on the mortality rate.

A consideration of the date of death in these cases shows that one died on the third day, two in the second week, one in the third week, one in the fourth week, four in the fifth week, and two in the sixth week. Two of the deaths in the fifth week and one in the sixth week were during or following relapse.

While the death rate in relapse in general is considerably less than in initial attacks, the mortality in the 31 cases of relapse was more than twice as great as the death rate in the first attack. In the 189 cases in which there was only one attack, there was a mortality of 4.7 per cent. In the relapse cases it was 9.7 per cent.

The deaths in two instances were due to the intensity of the infection; two patients died from pneumonia, in one of whom a previous peritonitis existed; three died from hemorrhage, one of whom previously developed peritonitis, and another after repeated hemorrhage died of asthenia. Four patients developed perforations, two of whom were operated on, and all four cases terminated fatally.

COMPLICATIONS.

Among the 210 cases under observation, several presented interesting disturbances of the nervous system, which would seem to merit brief and separate mention.

CASE 35.—Boy, aged 11. Parent noticed that on the second day of the lad's illness the left eye turned in. The boy came under observation on third day of illness when, among other signs and symptoms, a paralysis of left external rectus was found. On the sixth day the Widal test was positive. Leucocyte count was 5,800. The disease ran severe course of eighteen days. The strabismus improved during convalescence. The boy did not present any other focal symptoms or evidence of meningeal involvement at any time.

The occurrence of ocular paresis in the first week of typhoid infection would seem to be a rare phenomenon. A similar case involving the motor oculi nerve appears in Johns Hopkins Hospital Reports for 1900, described by Emerson,[33] in which the paresis was first noticed on the eighth day.

Three cases showed more or less marked meningeal symptoms.

CASE 161.—Boy, aged 11, complained constantly of headache, and developed marked delirium early. Examination showed marked opisthotonos and rigidity of the trunk, which was said to have existed from the beginning of the illness. This condition persisted during the course of the disease, with enlarged spleen, rose spots and repeated epistaxis. There was a moderate run of temperature. All symptoms subsided after the second week, and the patient recovered.

CASE 206.—Girl, aged 10. There was a high temperature, and stupor alternating with delirium was present. Toward the end of the first week opisthotonos developed. The abdomen was tense and the knees were flexed. Rose spots were present and spleen was palpable. All symptoms subsided in the course of twelve days, recovery resulting.

CASE 183.—Girl, aged 2½ years, was sick one week. On first examination the clinical and physical signs of pneumonia were present; the head was retracted. Widal was positive on the following day. The disease ran a severe course of ten days, followed by several days of post-typhoid temperature, terminating in recovery.

Neuritis was found in two cases. Both patients had relapses, toward end of which the neuritis developed. Convulsions were not observed in any case during onset or course of disease, nor in convalescence. While fatuity was occasionally noted, we did not find a case of psychosis.

Circulation.—Although a varying grade of acute myocarditis is noted in about 50 per cent. of the fatal cases, according to Rhomberg, special evidence of this is not infrequently wanting clinically. In severe infections, however, an irregularity, feebleness and intermit-

32. Deutsch Arch. f. klin. Med., vol. xxxiv.

33. Emerson: Johns Hopkins Hospital Reports, 1900.

tency of the pulse are sometimes present, and a slight increase in the cardiac area, permitting the clinical diagnosis of acute myocarditis. The following cases illustrate this:

CASE 143.—A girl, aged 10, in whom the onset was sudden, with high temperature, diarrhea and vomiting, which continued throughout the disease, had a pulse which was always found irregular and feeble, varying in frequency from 136 to 172. She died on the thirteenth day of the disease.

CASE 170.—A boy, aged 9, passed through a severe attack of twenty-three days' duration, after which the pulse was noted as irregular. The heart area was increased, with a systolic murmur heard loudest over the base.

CASE 122.—A girl, aged 5, ran a high temperature for twenty days, with pulse rate between 100 and 128, and developed at the height of the disease a markedly intermittent pulse which continued into convalescence.

CASE 198.—A boy, aged 10, with a moderate run of temperature for twenty-five days, during the last ten days of fever had a sudden drop in the pulse rate, which had averaged from 90 to 120, down to 48. It continued four days between 48 and 64, and gradually increased to between 60 and 80, with irregularity in quality.

None of the patients developed endocarditis or pericarditis.

Respiratory Tract.—Acute angina existed in five cases. In three it developed at onset. In the others on the seventh and eighth days. Griesinger suggested that the atrium of typhoid infection in cases where angina was present from the onset was the throat. This opinion has since been maintained by Baginsky. It is noteworthy that of the first three cases one patient died of perforation on the twelfth day and another of bronchopneumonia. Laryngitis occurred in three cases; in one associated with pneumonia; in another with severe bronchitis.

Six patients developed pneumonia; in two it was lobular and in four lobar. In two of the latter it was present at the first examination; both recovered. Another patient developed lobar pneumonia during a first relapse. The pneumonia ended in resolution and the patient survived a second relapse of typhoid. The fourth patient developed pneumonia of the left upper lobe on the thirteenth day. The patient had already had peritonitis from the sixth day of observation. She died on the fifteenth day. A girl of 2½ years had lobular pneumonia, with meningeal symptoms, on coming under observation. She entered on convalescence on the twelfth day.

The second case of lobular pneumonia occurred on the tenth day of the disease and the patient died on the nineteenth day.

Organs of Special Sense.—The eyes were involved in two cases; in one a strabismus, already referred to, occurred; in the other a phlyctenular keratitis.

Fifteen patients had otitis media; in 14 it involved one ear only and in 1 both ears. A varying degree of accompanying deafness usually cleared up in convalescence. One patient who developed a marked deafness in both ears, and in whom no discharge from ears occurred, subsequently died of perforation. Trousseau looked on deafness in both ears as a favorable symptom, stating that he seldom saw such patients die.

Glands.—In one case an inguinal abscess appeared on left side in convalescence after a nine-day attack. One patient developed painful and tender submaxillary swellings at the end of an eighteen-day relapse, following an initial severe attack of two weeks. In another case similar gland swellings appeared, in convalescence, after a twenty-seven-day relapse. In neither case did suppuration take place.

Skin.—Furunculosis occurred in 4 cases; superficial abscess in 4 cases; bed sores in 2 cases; ischiorectal abscess in one case; extensive cellulitis of neck and back of head, with severe septic symptoms, occurred once, with recovery after operative interference.

Alimentary Tract.—Mercurial stomatitis developed in one case, in which a rhinitis and conjunctivitis also existed. Intestinal hemorrhage occurred in 13 cases, of which 4 patients were girls and 9 boys. The ages and number of cases in each year were as follows: At 4 years, 2 cases; at 6 years, 1 case; at 7 years, 3 cases; at 8 years, 3 cases; at 9 years, 1 case; at 10 years, 1 case; at 11 years, 1 case; at 15 years, 1 case.

Of these, 9 patients recovered and 4 died; one of the latter, however, died from perforation which occurred three days after hemorrhage (Table 7).

TABLE 7.—SHOWING THE DAYS ON WHICH HEMORRHAGE TOOK PLACE IN PATIENTS WHO RECOVERED.

	Day of Hemorrhage.	Duration of Disease.
Case 98	15th, 15th, 22d day.	37 days.
Case 25.	20th day.	32 days.
Case 69.	19th day.	21 days.
Case 142.	11th day.	28 days.
Case 157.	14th day.	21 days.
Case 76.	16th day.	18 days.
Case 117.	35th day.	54 days.
Case 180.	7th day of relapse.	34 days.

FATAL CASES.

A boy, aged 11, had a copious hemorrhage consisting of bright red blood and dark clots on the fourteenth day. On the seventeenth day perforation occurred and the boy died on the eighteenth day. A boy, aged 8, had been sick four weeks; he is said to have passed blood daily for a week. While under observation, he had no hemorrhage. Epistaxis occurred once. The boy died twelve days later from asthenia. Another boy of the same age had a copious hemorrhage on the thirtieth day and another on the thirty-fourth day; he died in collapse on the forty-second day. A girl, aged 15, developed peritonitis on the eighteenth day. There was copious hemorrhage on the twenty-third day and she died a few hours later. The temperature was subnormal and the pulse 150.

Montmollin reported hemorrhage in 14 out of 295 cases, 4 resulting fatally. Curschman records hemorrhage in about 1 per cent of his cases in children, which would seem unusually low, unless fatal cases alone were considered. Peritonitis developed in 6, or 2.8 per cent., of the 210 cases. Of these patients, 2 were males and 4 females. The youngest was 5 years; the oldest 15 years.

Following is brief history of individual cases:

CASE 39.—Boy, aged 11. Temperature was moderate; there was marked tympany, diarrhea and considerable tenderness of left iliac region. On the fourteenth day he grew very restless and had a large hemorrhage, passing dark clots and bright red blood. Temperature was unchanged at the time; pulse slightly accelerated. On the seventeenth day he complained of pain in the abdomen; tympany increased and liver dullness diminished; the abdomen was tense and painful. He vomited frequently. A diagnosis of perforation was made. He was operated on and died the same day.

CASE 53.—Boy, aged 9, had a moderate but erratic temperature for nineteen days and an afebrile period of five days. A mild relapse of ten days followed. After five days of normal temperature indiscretion of diet occurred. The following day temperature was 103.4; pulse 134. He complained greatly of abdominal pain and presented Hippocratic fascies. There was frequent vomiting. Examination showed a distended, hard abdomen, with great tenderness. Liver dullness was diminished. Leucocyte count on the morning of abdominal pain was 10,800; several hours later, 8,800. A diagnosis was made of perforative peritonitis. The boy died five days later.

CASE 101.—Girl, aged 9. The disease ran a moderately high

temperature. She vomited on the tenth and thirteenth days. On the fourteenth day she complained of severe abdominal pain and vomited often and had hiccoughs. Abdomen at first sunken and hard, became distended, tense and very painful. Liver dullness disappeared. Leucocyte count on fourteenth day was 21,800; on the fifteenth day, 17,000. At 8 a. m. of the fourteenth day temperature was 99.6, and pulse 92. At 11:30 a. m., after complaint of abdominal pain, temperature was 101 and pulse 136. A diagnosis of perforation was made. The girl died on the sixteenth day.

Case 159.—In a girl aged 15, the disease ran a high temperature. She vomited on the seventeenth day. On the nineteenth day she complained of abdominal pain. In the morning the temperature was 100.6; at 1 p. m., 105.6, and at 8 p. m., 99.4, dropping to subnormal, where it remained till the following morning. Thereafter she had high temperature, with maximum of 106. There was frequent vomiting, abdominal distension, rigidity and tenderness. The Hippocratic fascies was present. On the twenty-third day she had a large hemorrhage and died the same day. The diagnosis was perforative peritonitis, with intestinal hemorrhage.

Case 177.—Girl, aged 12. The first attack was severe, lasting eleven days. There was an afebrile period of one day. After a dietetic error a relapse occurred on the following day. On the sixth day of the relapse she had severe pain in the abdomen, which became distended and tense, and was exquisitely tender. Liver dullness was present. A leucocyte count after complaint of abdominal pain was 7,000 at 11 a. m.; at 4:30 p. m. the same day it was 8,400. The girl developed pneumonia of left upper lobe on the thirteenth day. She died on the fifteenth day. Diagnosis was peritonitis and lobar pneumonia. Four Widal tests made in this case in the initial attack were negative. It was found positive on the second day of relapse.

Case 191.—Girl, aged 5. First attack lasted nineteen days and was moderately severe. Then there was an afebrile period of three days. Diet was increased and a relapse began on the fourth day. The relapse ran a high temperature. During the early morning of the twelfth day of the relapse she complained of pain in the abdomen. Pulse was 160; temperature, 103.8; respirations, 40. She vomited. Examination showed a distended, hard and tender abdomen. The knees were flexed. Liver dullness was diminished. Hippocratic fascies was present. Leucocyte count was 8,200 in the morning; at 4 p. m. it was 6,000. A diagnosis was made of perforation. She was operated on the same day, and died several hours later.

TREATMENT.

The treatment employed in these cases consisted in proper hygiene, and care of the patient, appropriate diet and symptomatic treatment, including hydrotherapy; in some instances, intestinal antisepsis and the treatment of special symptoms and complications as they arose.

The environment and care of the little patients was looked after, when possible, by trained nurses, whose intelligent co-operation in the care of typhoid fever is invaluable.

The diet given during the course of the disease was chiefly milk, barley and strained oatmeal gruels, albumin water, custard, chocolate, eggnog, and ice cream, and drinks of orangeade, lemonade and water.

There seems to be a tendency to enlarge the diet of typhoid patients and to broaden it into quite a menu. A study of the diet in these 210 cases leads me to believe that it is quite an unfortunate venture, so far as children are concerned. The administration of egg, whole, in any form, seems intolerable in a large proportion of children. On the other hand, the white of egg, as albumin water, is always well borne. When eggnogs are given during the first part of the disease, the intestinal symptoms are intensified. After discontinuing their use, the temperature, in some instances, would seek a lower level. They seemed to exert an especially unfavorable influence in defervescence and during the first days of convalescence, as instanced by the following: A child of 5 years, after running a temperature for 22 days, received, in addition to the regular liquid diet, eggnog before the temperature was fully normal. Temperature arose the following day and continued high for twelve days. In a child of 6 years, typhoid ran a course of 30 days. Four days were afebrile, and eggnog was added to the diet. A relapse of nine days, with high temperature, followed.

While milk is not the appropriate diet for infants, or for very young children, with a catarrhal or follicular enteritis, it seems to be well borne in typhoid patients of the same age, provided it is diluted from one-half to two-thirds with a cereal gruel or lime water. It is not, however, well tolerated when given as whole milk; the stools become curded and slimy, and tympany increases. This is frequently true with older children, and similar dilutions of milk are desirable. Where greater dilutions are necessary, they may be used.

From a close study of the action of diet in these cases, milk, diluted for infants and young children, as indicated, would seem to be the best diet for children suffering from typhoid fever.

Albumin water is also a suitable part of the diet, as is likewise the usual cereal gruel diluents, as barley water and rice water, to be given, however, more as drinks than to take the place of milk.

Ice cream at times seems to be well borne; at other times the intestinal symptoms become more marked.

The care of the diet in the first days of convalescence is as important as at the height of the attack. Too frequently errors at this period have sad consequences, as instanced by the following: A girl of 12 years passed through a severe attack of 11 days' duration, followed by an afebrile period of one day. She received toast, and temperature rose next day to 105, the beginning of a relapse, on the sixth day of which she developed peritonitis; on the thirteenth day lobar pneumonia, and she died on the fifteenth day. A girl of 11 years had a mild attack of 20 days, with temperature the greater part of the time below 100. After one day of normal temperature she received egg and toast. The temperature rose on the following day, and she had a severe relapse, lasting 33 days, with maximum temperature of 105.

If a patient can continue to live on a liquid diet during the severe course of the disease, they certainly can do so after the temperature is normal. It would appear that it is seldom necessary to disturb this afebrile period by an increase in diet until the patient has passed beyond a time when it is likely to do harm, which time I would place at ten days. Then I would gradually increase the diet, remembering that infants and very young children will not do badly if milk constitutes a greater part of their nourishment.

In cases of intestinal hemorrhage the diet was limited in quantity and was confined to whey, albumin water and beef juice. In cases of perforation, nutrient enemas were used.

Hydrotherapeutic measures employed consisted in tubbing, sponging and the cold pack. Tubbing was used in practically all cases, unless some contraindication existed which rendered it inadvisable. This method is especially suited to children. They are easily transferred from bed to tub, and after the first few tubbings seldom offer any resistance to it.

While the temperature was the usual guide to its employment (103.5 to 104 by rectum), it was also re-

sorted to in the presence of marked nervous symptoms, even when the temperature was at a lower level. The nervous symptoms are probably as important an index to its use as the temperature, as they seem to be a safe guide to the intensity of the infection. Patients with marked nervous symptoms, however, commonly run a high temperature in typhoid, so that, in general, the temperature, except in exceptional instances, forms a reliable indication for the hydrotherapy.

The temperature of the bath at first was about 90 degrees and gradually cooled to 80 or 75, the bath lasting from 10 to 20 minutes, the patient being gently rubbed during this time. It would hardly seem necessary or advisable to resort to the low temperatures of the water as originally recommended by Brandt. A decided lowering of temperature, varying from 1 to 3 or 4 degrees, is obtained by above bathing temperature first recommended by Ziemssen.[34]

While the number of tubbings in 24 hours depended on the temperature, I am inclined to think that we sometimes overdo it and tire our patients. A child with typhoid requires rest, and should be manipulated as little as is consistent with the condition.

In addition to the hydrotherapeutic measures mentioned, in cases of intense intoxication high enemas of salt solution were administered from every four to six hours, in quantities of from two to eight ounces, according to how they were retained. They seemed to be of considerable advantage by increasing elimination, especially renal.

Intestinal antiseptics were given in a number of cases, among them acetozone, salol, guaiacol, benzozol, and calomel; the latter also for its laxative effect. Of the fatal cases, of whom ten patients were under treatment (the eleventh patient dying twelve hours after coming under observation), five were receiving intestinal antiseptics. Of these, 3 received acetozone, 1 salol, and 1 calomel. Of the 210 cases, 45 received acetozone, 15 salol, 7 calomel, 2 guaiacol, and 2 benzozol. One hundred and thirty-nine did not receive any intestinal antiseptics.

It is probably a coincidence that the mortality among those getting intestinal antiseptics was 7 per cent., and among those not receiving them 3.8 per cent. This is probably due to giving intestinal antiseptics in severe cases, with the hope of exerting some influence on the intestinal changes. However, the use of intestinal antiseptics did not seem to be of any special value in any of the cases.

Of the special symptoms, those referable to the nervous system were invariably favorably influenced by hydrotherapy, as was likewise the circulation. The pulse usually showed, where rapid and feeble, considerable improvement following a tubbing, both in quality and diminished frequency.

In cases of constipation in first week, small doses of calomel or castor oil were used. At a later period, the enema was employed, although at times calomel and castor oil in small doses were also given.

Diarrhea was seldom sufficient to call for special treatment beyond attention to diet, as the adding of lime water to milk, and avoidance of broths.

When tympany was marked the usual turpentine applications, and salt enemas, or rectal injections of emulsion of turpentine in equal parts of milk of asafetida and liquor camphor were used.

In cases presenting marked cardiac weakness, stimulants, chiefly strychnin and whisky, were administered. The pneumonias received no special treatment beyond the employment of cardiac stimulants, when indicated, strychnia being used hypodermically when necessary; also whisky or brandy.

In hemorrhage, the usual methods were used: the ice coil or bag, morphia hypodermically, or opium and acetate of lead by the mouth, restriction of diet, and elevation of foot of bed.

Of the cases of perforation, two patients were operated on, but died, as did those not operated on.

Of the medicinal measures, an opiate was given as necessary, and rectal feeding employed.

34. Ziemssen and Immerman: "Die Kaltwasser Behandlung des Typhus Abdominalis," Leipzig, 1870.

DISCUSSION.

DR. ARTHUR W. FAIRBANKS, Boston, stated that he has been interested in noticing that the rule of differential diagnosis of typhoid and tuberculosis that is of so much value—the disproportion between the pulse and temperature—does not apply in the same degree to children. The Germans have always placed great emphasis in the adult on the slowness of pulse in proportion to temperature in typhoid fever, and it is a very striking occurrence. The pulse is near the normal, 80 or 85, and temperature from 101 to 103 and 104, and possibly higher in typhoid. In tuberculosis it is exactly opposite. In the vast majority of cases the pulse is extremely rapid, out of all proportion to the temperature. In children that fact does not seem to apply. In typhoid fever the pulse seems to follow the temperature. The leucocyte count is of much value in these cases. Dr. Fairbanks recalled that in the summer of 1904, in the holidays, a large number of children were affected with diarrhea. In one case he could find no rose spots and no signs of typhoid fever. There was irregular temperature. There seemed to be no evidence of typhoid fever, but the leucocyte count pointed to typhoid. The bacteria found during a search for Shiga organisms, responded to all the tests of the typhoid organisms. This indicates the value of the leucocyte count in these cases. There is a reduction in the leucocytes, a leucopenia, in typhoid, while in other cases likely to be mistaken for this disease there is almost invariably an increase, a leucocytosis.

DR. W. J. BUTLER, in reply to questions, stated that in typhoid fever in infancy the only positive way of making the diagnosis under all circumstances is by the Widal reaction, or finding the bacilli. The test made with dried blood is quite as satisfactory as with the fresh serum.

SOME CAUSES OF FAILURE AFTER GYNECOLOGIC OPERATIONS.*

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GENERAL CONSIDERATIONS.

Our mission as gynecologists is to cure women of their diseases, and any procedure, however skillfully executed, is a failure if a cure is not effected.

Whether gynecology is to continue to be a living, growing specialty and to redound to the benefit of womankind, as its founders originally conceived, will depend very largely on whether it can be rescued from the ultra surgical, and gynecology not be made a synonum for surgery. The brilliant results obtained by general and gynecologic surgery have been so fascinating that many of the most brilliant of our profession have been so charmed by the glitter as to abandon less luminous fields and devote their entire energies to the development of this department of therapeutics, along purely mechanical lines. While, as has often been said, gynecologists were the first to blaze the way to successful

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

surgery within the abdominal cavity, general surgeons have not been slow to take advantage of this, until now the uterus and its appendages are considered their legitimate field. It is true that many of the most satisfactory results are attained by major operations, still gynecology does not end with these. Gynecology is defined by a modern medical lexicographer as that branch of medicine which treats of women's constitution and diseases. By this it will be seen that the treatment of diseases of women does not end with the treatment of organs peculiar to her, nor necessarily with a special operation, but of the woman as a whole.

I do not mean to infer that a woman is not especially affected by the organs peculiar to her, but that a mere readjustment of a rather unimportant organ without further effort will cure her of her ills, I very much doubt. It is too much the tendency nowadays, to do more or less surgery on a woman, correcting certain lesions, and to send her away cured; but she comes back to us or to some one else and says she feels the same as before the operation and is no better—sometimes worse. We examine her, and find the perineum which we repaired intact, the uterus on which we did a fixation or suspension operation of some sort in its proper position; the ovary that we patched up and left is seemingly doing well; perhaps we removed the appendix and still the woman complains. We tell her that her pelvic organs are all right and that she ought to be well; and she will be in time if she has no organic disease of other important organs, or if she does not become discouraged and sink back into a condition of semi-invalidism, or become involved in the machinations of the osteopath or Christian scientist. I have known many patients who had undergone successful surgery, and not getting the proper relief that they expected, drift into the hands of some pretender, and the surgeon not only does not get the credit due him, but is actually blamed for doing unnecessary operations. It is important, therefore, to bear in mind that women have other organs besides the perineum, cervix, uterus, tubes and ovaries, and above all, that they have very susceptible nervous systems, capable of being influenced by many agencies apparently remote.

So much for the less apparent reasons; and now as to the more tangible reasons why women do not recover after they have undergone certain operative procedure, calculated to prevent or to cure pathologic conditions. Fully realizing the enormity of this task, I will limit my remarks to a few of those most frequently met in the pelvis.

PELVIC FLOOR DAMAGE.

Beginning with the lesions in the order that they present themselves to the gynecologist, we will first consider the perineum and pelvic floor. Pregnancy, parturition and the puerperium may not be strictly gynecologic conditions, but that they rapidly become so is conceded. We have only to refer to our gynecologic case records to learn how very frequently women date their ill health to their confinements, often to the first. As pointed out by Hirst a few years ago, this is a most frequent cause of ill health in women. From the time a woman becomes pregnant until she has entirely recovered from her delivery, she is subjected to many and violent influences. First, the disturbances of metabolism and the toxemias; the disturbances of the dynamic relations of the abdominal viscera by the growth and pressure of the gravid uterus and the traumatisms and infections accompanying and following delivery. It is practically impossible as conditions now exist, for a woman to be delivered of a child at full term without more or less injury to the pelvic floor, vagina or perineum. As Edgar says: "When we remember that the outlet of the birth canal, with a diameter of from 1 to 1½ inches is suddenly dilated until a ring of from 10 to 12 inches is produced, it is not hard to understand why injury is inflicted."

These injuries do not take place, as a rule, where they are plainly visible. The line of laceration follows the direction of least resistance, or at the point of greatest pressure. Tears in the vaginal mucous membrane and perineum may not be at the same point. Lacerations of the pelvic floor (levator ani muscle and fascia) may occur immediately under the tear in the vaginal mucous membrane, or it may be submucus at another point, or the musculature of the pelvic floor may be extensively lacerated and the skin and mucous membrane remain intact. The consequences of these lacerations depend entirely on the structures injured. If confined to the skin and perineum, no harm will follow, so far as support is concerned, but if the deeper tissues, the levator ani muscles are involved, there will occur loss of the perineal flexure of the rectum and vagina, with recession of the vagina and anus from the pubic arch, rectocele, cystocele, prolapsus uteri and uterine retrodeviation, subinvolution of the uterus and vagina and splanchnoptosis, followed by dynamic disturbances of the influence of intra-abdominal pressure, supervention of reflex phenomena and a state of general ill health will be instituted.

Too many operators lose sight of the fact that the perineum and the pelvic floor or diaphragm are different structures, developmentally, anatomically, physiologically and pathologically, and anatomists have repeatedly called attention to the disassociation of these two structures. In speaking of the anatomy of the pelvic floor and perineum, I shall be compelled to quote very freely from Peter Thompson on "The Myology of the Pelvic Floor." I am aware that many gynecologists are now teaching the new anatomy of pelvic support, but that the majority of the profession are sufficiently awake to the importance of the exact nature of these lesions I very much doubt.

The pelvic floor is for the support of the superimposed viscera, while the perineum is simply a common meeting point for muscular and aponeurotic structures entirely below and external to the pelvic floor and has to do with the mechanism of the closure of the clefts of the visceral outlets—the sphincters. Those muscles having to do with sphincteric action are developed from the primitive sphincter cloaca, while those forming the pelvic diaphragm were originally the muscles of the caudal end of the vertebral column, and are developed from the primitive flexors and adductors of the caudal vertebræ.

The pelvic floor is composed of four paired muscles—the ischiococcygeus, the iliococcygeus, the pubococcygeus and the puborectalis. These muscles take their origin, roughly speaking, from around the brim of the true pelvis, and are inserted into the sacrum, coccyx and median tendinous raphe. The pubococcygeus and the puborectalis form the most important constituent element of the pelvic support. The pubococcygeus arises from the back of the body of the pubic bone along an oblique line which extends from the lowest limit of the symphysis outward toward the obturator canal and, to a limited extent, from the obturator fascia. From this origin the fibers pass back by the urethra, vagina and rectum and are inserted by a tendinous expansion to the ventral surface of the lower part of the sacrum and coccyx. The puborectalis,

or sphincter recti of Holl, arises from the back of the lowest part of the symphysis, under cover of the pubococcygeus, from the upper layer of the triangular ligament, and from the pubis immediately beneath the symphysis. From this origin the fibers pass around the lower rectum, meeting with the fibers from the opposite side, to form a loop or girdle which slings the rectum and vagina up under the pubic bone.

The puborectalis keeps the rectum and vagina pulled forward under the pubic bone, so that the anus occupies a position on a line from one tuber ischii to the other and midway between the tip of the coccyx and the symphysis pubis. This is the position when the muscle is intact, but when it is lacerated or has lost its tone it allows the perineal body to recede, and the perineal flexure of the rectum and vagina is lost. This is the muscle that receives the major part of the injury sustained during delivery.

If the practice is made of investigating the tonicity of the puborectalis in all vaginal examinations, both before and after parturition, the difference can readily be determined. In women who have not borne children this muscular band can be felt tense and firm, as it passes along by the side of the vagina just within the introitus. In the vast majority of cases after delivery there is a condition of relaxation, of flaccidity and loss of tone, often with little or no resistance to backward or lateral pressure with the finger until the ligaments or pelvic bones are reached. Breaks in the musculature of the pelvic floor can frequently be distinctly felt. I have observed the physical condition of the muscle and fascia before and after delivery in the same woman and noted the difference. These observations were systematically made, not only immediately, but months after labor, and the muscles rarely recover their tone, even in those cases in which immediate repair had been done. These observations were made not only with the woman lying quietly in bed or on a table, but standing. The erect position brings out the contractile power of the levator ani and the integrity of its fascia, and with the finger in the vagina this muscular band can be so studied that any interruptions in its continuity can be noted. This can often be graphically demonstrated by placing a wax phallus in the vagina and asking the woman to contract the pelvic floor and noting the indenture.

This led me to believe that almost every woman during her confinement suffers injuries from which she does not recover, and that immediate suture of apparent lacerations does not restore pelvic support in the vast majority of cases. Certainly repair work attempted on a bed, without proper assistance, retractors or a good light, is little more than a farce so far as restoring the function of the pelvic floor is concerned.

I do not wish to be understood as not favoring immediate suture. Such operative procedure is not only necessary to prevent infection, to restore sphincteric action and pudendal symmetry, but accurate readjustment to the normal position of the musculature is essential for the full restoration of pelvic support, is attainable to the fullest degree only with the immediate operation or, at most, operation within the first few days. The muscle and its fascia at once begin to retract and atrophy so that a secondary operation, however well done, can not restore function to the same extent. An efficient immediate or intermediate operation is possible only with the patient on the table, with good light, retractors and assistance. Careful examination of the parts must be made, and the original anatomic elements united. Suturing the superficial rents in the skin and mucous membrane, passing through a promiscuous mass of tissue beneath and uniting structures of a dissimilar nature will not restore the pelvic floor nor prevent vaginal prolapse. Who would attempt to cure hernia by simply suturing together the skin over the abdominal ring, and pelvic herniation is practically what happens when the muscular and fascial structures of the pelvic diaphragm are impaired.

Furthermore, my observation teaches me that, even after a careful immediate suture, a considerable percentage of cases will require a secondary operation; for, unless the tear in the vaginal mucous membrane and that in the musculature is at the same point, the sutures will not make a union of proper structures. When the puborectalis has been lacerated at a different point from that of the skin I have not hesitated to cut down and suture its ends with buried sutures.

ABDOMINAL PTOSES—RETROVERSION.

Whether by the inefficiency of immediate suture or its omission, or the lack of proper secondary repair, where tissues of a dissimilar nature are united in a cicatricial mass, and original anatomic structures left apart, normal physiologic support is not secured. Prolapse and telescoping of the vagina and uterine retroposition naturally follows. Further than this, gravity and intra-abdominal pressure leads to ptoses of the viscera and tugging on the normal peritoneal ligaments of the liver, stomach, kidneys and intestines. It is a well-known fact that little pain is produced in operations within the abdomen under local anesthesia if the peritoneal attachments of the organs, especially the bowels, are not pulled on. Even under anesthesia we readily notice increased disturbance of the heart and respiration the minute we begin pulling on the peritoneal processes. A very little relaxation of the pelvic floor would allow sufficient tension to be placed on the peritoneal ligaments (which are the true supports) of the uterus, bowels, kidneys and stomach to produce the symptoms of splanchnoptosis. Intra-abdominal pressure is the result principally of muscular contraction and gravity, to which is added, especially in women, faulty dress. Woman's dress is almost as trying on the pelvic diaphragm as parturition, but with the two combined is it any wonder that women are ailing?

The startling frequency with which visceroptosis is met in neurasthenic conditions in women is well known. Neurasthenia is much less common in men, but those I have had experience with have been where there was ptosis of one or more of the abdominal viscera.

Led by the teachings of Theilhaber, Winter, Landau, Freudenberg, and later of Pfannensteil and Wormser, we are becoming more and more cognizant of the fact that uncomplicated retrodisplacements of the uterus give rise to few symptoms; and yet in nearly every medical society meeting there is a paper or discussion on some pet operation for retroplaced uteri. There are some 50 operations or devices for overcoming retrodisplacement, which, to my mind, shows the utter futility of these operations *per se* in relieving symptoms. Early in my experience I was struck with my inability to cure my patients of symptoms supposed to be due to retroversion. I then began to keep fuller records of the after-history, and I found that few patients were cured or even benefited. Most of these patients passed from observation, but I have the records of 48 cases on which to base my conclusions. Later I began to do more thorough work on the pelvic floor, independently of or in connection with, the versions, as the individual case seemed to de-

mand, to correct visceral ptosis and to keep the organs in position by external support, gymnastics and proper dress and posture; in other words, I followed up my cases, and the results have been eminently satisfactory.

A normally developed uterus that is not infected, that is movable and is not in a condition of prolapse so as to pull on its peritoneal ligaments will not produce symptoms, no matter what position it occupies. On the other hand, a traumatized, infected or fixed uterus will cause symptoms, no matter in what position it is placed; and this is true of the abdominal and pelvic viscera as a whole. As soon as any viscus becomes infected or injured or drags on its attachments, its blood and lymph circulations are interfered with and it has a tendency to become fixed. This fixation interferes with peristalsis and adds trauma to the nerve supply and irritation to the nerve centers.

Puerperal lesions of the pelvic floor, vagina and cervix produce nerve irritation and lead to infection of the uterus, tubes, ovaries, broad ligament and pelvic peritoneum, either by continuity of tissue or through the lymphatic circulation. When the uterus is infected, heavy and traumatized and its pelvic-floor support diminished, it recedes into the pelvis, pulls on its intraperitoneal ligaments and forms adhesions with surrounding structures. Taken as a whole, very few women escape infection after abortion or delivery at term, not necessarily of a severe type, but so mild as often to create little notice at the time. Later there will be cicatricial contractions in and around the uterus, and corresponding symptoms follow. I have observed many cases of retroversion in young women that never produced symptoms until pelvic-floor relaxation occurred, unless infected by the gonococcus or pregnancy ensued with its consequences. As first pointed out by Schultze, the position of the uterus is that of mobile equilibrium and is pathologic only when restricted in its freedom of movement. This wide range of physiologic mobility is maintained principally by the pelvic floor and pelvic peritoneum. The so-called uterine ligaments are normally in a state of relaxation, and simply resist excessive movement. Consequently, those operations are the most successful that inflict the least injury on the peritoneum, produce fewer adhesions and allow most physiologic mobility.

CONSERVATIVE OPERATIONS ON OVARIES.

Another source of failure after intrapelvic operations is the so-called conservative operations on ovaries. It is admitted by all that the influence of the ovary on the growth, development and very likely the life of the woman is very important; that in all operations about the pelvis it is advisable to conserve all the ovarian tissue possible; that the uterus is merely a fetal receptacle and, in health, has no influence on the normal cycle of a woman's life. Furthermore, it is admitted, I believe, that the vast majority of the destructive lesions of the ovaries have their inception in metritic processes, engendered by the introduction from without of certain micro-organisms known to have a deleterious influence. It is very much of a question whether, after a uterus once becomes thoroughly infected, it ever quite regains its normal condition. Especially is this so of gonococcal infection. Postabortive and postpuerperal sepsis, while more frequently recovered from or more amenable to treatment, often leave a train of pelvic symptoms due primarily to the infection. From this source the ovaries become involved either by continuity of tissue through the corporeal endometrium and the Fallopian tubes or by way of the lymph stream. According to Porier, the lymphatic vessels of the uterus form four or five trunks which appear beneath the cornua. These vessels at first follow the terminal segment of the uterine artery, then pass beneath the ovary, where they are joined by vessels from this gland. Then they run in the suspensory ligament of the ovary, and with the blood vessels surround the ovary, in their passage to the lumbar glands.

Consequently, in those infective processes in which the question comes up, at the time of operation, regarding the necessity of sacrificing one or both ovaries, in part or whole, or the removal of one ovary and part of the other, and it becomes very much of a question after removing one ovary whether it is possible to save the other.

Under such circumstances we will be much more likely to conserve ovarian tissue by doing a supravaginal amputation of the uterus and excising the Fallopian tubes and the accompanying lymphatic trunks than by doing conservative work on the ovaries alone and leaving the uterus. Furthermore, in those cases in which it becomes necessary to perform a double salpingo-oöphorectomy for septic conditions, there is no question in my mind as to the advisability of removing the uterus at the same time. This has been my practice for several years, and my results have been eminently satisfactory. Leaving a uterus, the source of pelvic pains, leucorrhea and infection, will render other operative procedures of doubtful utility. After the ovaries are gone, there is little, besides sentiment connected with the uterus, of value. Besides, the hysterectomy allows us to do cleaner and better work, with fewer postoperative adhesions to cause pain, intestinal obstruction, reflex and general disturbances, and failure to effect a cure.

It is my intention to follow up this subject pertaining to other abdominal operations in future papers.

DISCUSSION.

DR. J. H. CARSTENS, Detroit, said that too often patients are operated on and for various reasons are not cured. Once in a while the operation is a poor one, or the technic is poor and complications arise, or union is not perfect and adhesions form, or something else happens, or there is shock or some other condition which causes great suffering. The principal reason is that physicians do not make a correct diagnosis. Because the patient is a woman, it is taken for granted that the trouble is in her uterus, ovaries, tubes or perineum. Physicians are apt to forget that women have general ptosis of the abdomen, that they may have floating kidneys, gallstones, appendicitis, syphilis, neurasthenia, and many other things, just like men. They neglect to look for these things and the result is that operations are not successful. Dr. Carstens urged the necessity of a more thorough diagnosis and a more thorough systematic investigation of every case. Many patients are hurriedly taken to a gynecologist for operation. Sometimes there is a fibroid or a cirrhotic ovary, or an ovarian tumor which is causing pain; the gynecologist finds that condition and thinks that it ought to be removed, that it causes some of the symptoms, which probably is true. It is removed, not because the woman's life is in danger, but because she is suffering. The patient comes back later, but is not cured of some of her symptoms. She may have had gallstones. The family physician may have overlooked the nature of her trouble or he may not have told the operator of her attacks of pain. Perhaps she takes improper food; therefore gynecologists must be more thorough in the examination of a patient. Often the general practitioner takes the patient to the gynecologist and promises her relief. Dr. Carstens does not promise his patients everything, because if they do not get the promised relief the operator is blamed.

DR. D. H. CRAIG, Boston, said that Dr. Carsten's remarks

can be epitomized as follows: 1, Inefficient operating; 2, insufficient operating; 3, excessive operating; 4, insufficient preparation; 5, insufficient convalescence. If gynecologists will take cognizance of these five factors in every case it will help to do away with failures in the majority of cases. The length, troublesomeness and seriousness of convalescence are in exact inverse proportion to the time the operator spends in getting his patient ready for operation. Adequate preparation means shorter and better convalescence. Hasty preparation means protracted convalescence, and frequently it means the drifting of the patient into a state of discouragement, and the operator is credited with a failure. Did the gynecologist pay sufficient attention to the preparation of the patients morally, mentally and physically, he would go far toward avoiding failures.

DR. J. T. WALLS, Portland, Ore., declared that lacerations following parturition are frequently overlooked; such patients should have early attention after confinement. If the physician knows there is an injury he should advise its early repair, because malignancy is likely to set in. Dr. Walls has found few cases of cancer of the cervix that could not be traced to an old laceration. Small lacerations should not be overlooked, as they frequently produce much systemic disturbance, and he makes it a rule to repair all lacerations when he has an opportunity. In cases of long standing the uterus should first be curetted, and the patient given time to recuperate and the endometrium to become normal before doing a trachelorrhaphy. The patient should be kept quiet until union is complete. Dr. Walls avoids using tampons of any kind; he prefers instead the use of antiseptic gelatin suppositories, using them at night only; he has the patient insert the suppository herself. This, he finds, serves the double purpose of tampon and douche. In the morning he has the patient cleanse the parts externally by the use of warm soapsuds, using a cloth, omitting the douche entirely.

DR. V. J. HAWKINS, St. Paul, Minn., said that no matter how much the cervix is lacerated, if it is covered by normal mucous membrane no symptoms will arise unless there is an infection. So far as consultants are concerned, patients should not be taken to the surgeon for the purpose of having a certain operation performed. If a patient of Dr. Hawkins is not getting along well, he asks for the privilege of a consultation, thus placing both himself and the surgeon in a good position, because their opinions of the case may differ. There is so much chance for a difference of opinion that it is unwise to tell patients that one will call in a surgeon to have a certain operation performed. That might not be the cause of the trouble. Dr. Hawkins said that the surgeon should not expect that every case brings with it a large fee; nor should he imagine that because the physician does not tell him everything, that he does not know. In many of these cases the trouble is caused by autointoxication or malnutrition, and that must be gotten rid of before results can be obtained. Physicians should get away from the belief that lacerations of the cervix cause cancer or other serious trouble, unless there is an infection.

DR. D. C. NEWMAN, Spokane, Wash., stated that in his experience these lacerations of the cervix rarely become covered with normal mucous membrane. They may be patched up for a while, but they soon become infected and then there is trouble. Dr. Newman thinks that Dr. Carstens hit the nail on the head when he said that the reasons these operations are a failure is because gynecologists do not treat the patient, but only the uterus and appendages.

DR. W. E. GROUND said that it is important to follow up these patients after operation, teaching them how to live, to dress, and even how to stand and to walk, if the best results are expected.

Proprietary Preparations with Incompatibilities.—But let me warn you to place no faith in the pharmaceutical monstrosities which are said to contain pepsin combined with pancreatin, with which it is positively incompatible, nor those in which it is combined with wines or any preparation of alcohol which, except in the weakest dilutions, interfere with its action.—Boardman Reed.

ETIOLOGY AND TREATMENT OF SO-CALLED ENDOMETRITIS.*

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It is with a feeling of great diffidence that I bring before this section such a common-place subject as endometritis, but I feel justified in doing so from the fact that, taking at random six different modern text-books, I find given twenty-seven different kinds of endometritis; out of these twenty-seven varieties, there is no one variety which is mentioned in each text-book. There are three varieties (exfoliating, gonorrheal and septic) which are mentioned in four; four varieties (atrophic, hypertrophic, simple chronic and fungous or fungoid) in three; eight varieties (hemorrhagic, hyperplastic, glandular, interstitial, polypoid, simple, tuberculous and senile) in two, and ten varieties (catarrhal, decidual, menstrual, diphtheritic, infectious, syphilitic, virginal, puerperal, putrid and villous-degeneration) mentioned once each in six different text-books. If gynecologists were earnest, serious students to-day and just beginning their gynecologic studies, they would throw up their hands in despair at twenty-seven different diseased conditions of one small tissue, each entitled to a separate pathology, symptomatology, diagnosis, prognosis and treatment; for these terms, strictly speaking, are not interchangeable. I have particularly tried to avoid using different terms that might mean the same thing, or I might have added several varieties more. If these twenty-seven varieties of endometritis really exist, they should be described in each text-book; if they do not, they should be cut out.

I do not wish to take up time with a description of the gross or minute anatomy of the endometrium, but will call attention to the fact that it differs materially from any other structure in the body; that it is not a true mucous membrane; that it is a glandular structure intimately connected with the muscular tissue of the uterus, and, therefore, is tremendously influenced by any changes which take place in the uterus; that the endometrium of the body and that of the cervix are histologically different, and that I am speaking particularly of that of the body. Its main function is undoubtedly connected with the development of the fertilized ovum. The endometrium is by nature a hemorrhagic tissue, as is proved by the flow of the menstrual period which is merely the result of an overcongested tissue and is Nature's remedy for its relief. This structure is not normally cast off in its entirety at each menstrual epoch and then renovated, nor is it even disintegrated to any considerable extent, as many would have us believe.

In regard to the pathology of the endometrium, I would like to quote, in the first place, from a text-book that was written over twenty years ago by one whom I believe is as justly entitled to be called the father of gynecology as J. Marion Sims, and whose student I had the honor to be when I was an interne at the Women's Hospital in the state of New York, Dr. T. Addis Emmet:

> It is all important in this relation to understand the difference between passive congestion, which is generally venous, and inflammation, which begins as a stasis in the arterial capillaries. These terms are usually regarded as synonymous, but as erroneously as many others are which are used in uterine terminology. Inflammation always involves an infiltration of cellular elements into the parts, or a multiplica-

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

tion of those already there; and this product may be recognized by an almost superficial inspection if it has not been absorbed. But we look in vain, after death, for any evidence of metritis or endometritis, or for ulceration of the cervix, as it is termed, for neither of the conditions so-called is inflammatory. On the contrary, in the conditions in which these are supposed to exist, the tissues are blanched, the blood from the capillaries having passed into the larger vessels as the heart failed to keep up the supply; and there is to be detected neither loss of tissue on the surface of the mucous membrane beyond the epithelium, if even to that extent, nor any hyperplasia in the organ itself. Inflammation, strictly speaking, can exist only in an acute form, although its products may remain for an indefinite period. Therefore, the term chronic inflammation applied to the uterus is a misnomer, and only serves to give erroneous impressions of the pathology and treatment of uterine diseases. Inflammation of the uterine body never occurs except after parturition, and those conditions which are commonly held to be the direct results of inflammation are due wholly to obstructed circulation in the organ, caused by pathologic processes in the cervix and neighboring parts. In this way the formation of flexures, many displacements, and the so-called uterine hyperplasias, with their attendant leucorrhea, are to be accounted for.

We shall have made a great advance in solving the problem as to the true pathology of many supposed uterine diseases when we seek for the cause outside the uterine limits.

In the second place, I will quote from a more modern author and at the same time one who is as well known, Dr. Howard Kelly:

Acute endometritis is generally found in acute septic processes involving the entire genital tract, but on account of the predominating symptoms of the other organs it is usually overlooked. Under any circumstances it is a rare affection.

Chronic endometritis is also rather rare. The prevailing habit of describing all scrapings, particularly because of their abundance in some cases, as examples of endometritis, is greatly to be deplored. It interferes with our getting any satisfactory idea as to the frequency of the real affection and tends to encourage unnecessary operating. The so-called "fungoid endometritis" is not a pathologic entity at all, and the name ought to be expunged from gynecologic works.

Chronic endometritis is oftenest associated with old cases of pyosalpinx; it is rarely ever found in the ordinary scrapings. The slight liability of the uterine mucosa to this affection may be ascribed to two factors: In the first place, the tendency of pus-containing tubes is to complete closure at the uterine end, and so shutting off one avenue of infection, and, in the second place, the form and position of the uterine canal is such as to afford good drainage.

After quoting two such eminent authorities on this subject, it leaves but little for me to say; but I can not help but add that a true endometritis can only exist as the result of a direct irritant to that structure, be it in the form of a microbic invasion or otherwise, conditions that rarely occur. The endometrium, owing to its intimate relations with the uterus, already alluded to, naturally will partake of any of its circulatory disturbances. The circulation of the uterus may have been interfered with, the uterus may be infected, inflammatory conditions of the appendages may affect it, it may be the home of new growths, and in all these conditions the endometrium will surely be affected, but does not represent a diseased condition by itself.

As to treatment, there is only one successful one, and that is the removal of the cause when it can be discovered. Local measures aimed at the endometrium proper will be of no avail. Scraping out parts of the endometrium with a curette will not cure a lacerated cervix, a subinvolution, a displacement, pus-tubes, a new growth, an infection nor even a virginal or senile endometritis, whatever these terms may mean.

I have said little or nothing about a condition which, perhaps, some of you may have in mind, and that is gonorrheal endometritis, and it is because I am in doubt as to the existence of a gonorrheal infection of the endometrium, on account of the lack of evidence. One of the text-books from which I quoted my varieties of endometritis assures us that such a condition is very common; that it frequently attacks the muscular structure of the uterus, and even produces abscess of the uterine walls. How any one can make such a statement I do not know. That the gonococcus frequently attacks the cervical endometrium is a well-established fact, but, as I have already said, I am only speaking of the endometrium of the body of the uterus, I will admit that this is a disputed point.

I have only attempted to treat this subject in a very general way, as it would be impossible to take up and to discuss each and every author's point of view and his reasons for classifying endometritis as he does, nor do I wish to deny him his right to his individual opinion. When it comes to teaching students, however, it seems to me that they have a right to the knowledge of the facts in the case, and that there should be some concerted effort on the part of teachers to learn something of the true etiology and pathology of endometritis, the knowledge alone of which will lead to a rational treatment of this condition.

DISCUSSION.

Dr. H. O. Marcy, Boston said that the utricular glands of the uterus have a function far greater than is usually supposed, and less damage is done in their curettement than would be the case were it not for the fact that their deeper portions are deeply imbedded in the connective tissue layers of the uterus. But for that curetting would do irreparable damage. Shedding of the uterine mucosa is a sort of cleaning house for the little tenant that Nature desires, and a great deal of damage and very little good may be done if physicians do not understand the physiology of these glands.

Dr. Ernest F. Tucker said that he thinks that gynecologists are not so well versed in anatomy, physiology and pathology as they should be. Most of our text-books are written by clinicians, and it throws discredit on gynecology to have such a variety of diseases mentioned in the text-books used in the colleges. This state of affairs ought not to exist, and Dr. Tucker said that he desired to impress teachers with the necessity of taking up this matter.

TRANSPLANTATION OF BONE FOR THE RELIEF OF SADDLE-NOSE.

WITH REPORT OF ONE CASE.*

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SAN FRANCISCO.

In 1900, Gersuny of Vienna reported the use of paraffin injection for the relief of deformity. Since then medical literature has been full of reports of the brilliant results attained by this procedure. The original method has been modified somewhat; we have learned by experience that all cases are not amenable to this form of treatment; we have also learned that serious complications sometimes follow its use.

In this paper I wish to make a comparison and to draw conclusions between paraffin injections and plastic surgery for the relief of saddle-nose.

The selection of cases is of the greatest importance if

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

good cosmetic effect are to follow paraffin injections. I can not do better than to repeat what Paget[1] says:

> It is important that the skin of the nose be free, loose, soft, healthy and abundant, so that you can raise it a full fold between your finger and thumb. If it is rigid, set and strained, so that you can not well raise it off the frame of the nose, you can hardly raise it or keep it raised with paraffin.

Especially if the skin be scarred, and thin, and adherent, stuck down here and there to what is left of the deeper structures, the case is wholly unfavorable and almost impracticable, as everything depends on the state of the skin. It is all a matter of tension; if the skin be stiff and not loose, it will not submit to be raised. It will retaliate on the paraffin. The freeing of adhesions by the use of a tenotomy knife has not been sufficiently satisfactory to be recommended.

The complications that may arise from the use of paraffin injections are many. They have been enumerated so many times that I will not go over the list, but will speak of the more important ones later.

Some of the complications may be eliminated by carrying out in detail every feature of the operation. As is said for plastic surgery, the execution of the minutiæ is that which makes a good or bad result.

Downie[2] performed an experiment that is interesting. He injected paraffin deep into the breast of a patient, in whom the breast was to be removed a week later. Careful sections were made; the paraffin appeared almost entirely in the deeper portions of the subcutaneous fat, distributed in blocks of varying size, the largest being about that of a pea. The masses are distinctly lobulated, more irregular, with rounded processes occupying apparently in every case a position between collections of adipose tissue which had been displaced by them.

It is inferred that the paraffin had made its way along the lines of connective tissue trabeculæ between the fat-containing cells. He further says that, from the fact that the infiltration of the paraffin is definite and tolerably intimate, it is difficult to believe that its position would subsequently alter to any extent, although its absorption is possible. He also injected molten paraffin into various parts of artificially warmed cadaver; in each instance the paraffin solidified in mass deep in either the cellular or the muscular tissue; an altogether different result to that obtained when the paraffin was injected into the living subject.

These experiments are worthy of more careful investigation. Downie says that the paraffin may be absorbed; if it is absorbed, how does this come about? Is it digested, so to speak, or is it carried off in smaller particles, which may or may not produce trouble, depending largely on the tissue involved and the amount that happens to accumulate in a given place. I am inclined to the former theory and believe that the paraffin is digested and absorbed. If the paraffin were carried in mass, we would sometimes have emboli following. In all the cases with which I am familiar, the embolus followed almost immediately. This is a very important point to determine, because it would aid us materially in learning something definite of the ultimate outcome of paraffin injections.

SUMMARY OF CASES IN THE LITERATURE.

A. W. Morton[3] made some valuable observations with paraffin at 109 F. At the end of one month, globules of paraffin were surrounded by a capsule of embryonic tissue; at the end of the second month, connective tissue had increased and new blood vessels were permeating the mass. The masses of paraffin had grown smaller and were surrounded by embryonic tissue which had penetrated the paraffin. At the end of the third month, there was a vast increase of new tissue, connective, fibrous and embryonic, with a decrease of the paraffin. At the end of the fourth month, the spaces that were filled with paraffin were entirely filled by embryonic tissue.

If these findings can be relied on, they are very important, as they add to definite knowledge, at the same time producing just the condition we would most wish for. Morton does not offer any theory as to how and why the paraffin disappears or why the new tissue is produced. If the theory of digestion or chemical change is correct, there is sufficient cause for the formation of the new tissue.

Bradley[4] reports a case in which paraffin remained as a foreign body after traveling in the tissue and gave rise to deformity. On operation he found a large fibrinous cicatrix, but no paraffin.

Smurthwaite[5] reports the results of experiments on dogs with the injection of paraffin. Two months following the injection, no paraffin could be found; fibrous connective tissue was present in the injected area.

Comstock, of Minnesota, in some experiments on rabbits, found that the danger of embolism was greater as the melting point was lower. On the other hand, Eckstein's paraffin with a melting point of 136 F. causes a good deal of local inflammation, but no cases of embolism have been reported following his method. It is said that if embolism were to follow this method, it would probably be due to the heat.

The complications that are more likely to follow hot injections are abscess and glazing and thickening of the skin. It is generally conceded that the greatest danger in the use of paraffin injections is from emboli, but the mode of their production is not fully appreciated. It is a fact that most of the cases of embolism have occurred when the melting point of the paraffin was below 110 F. On the other hand, it will be interesting to note the frequency with which embolism follows the injection of mercurial preparations suspended in liquid oil.

Hartung[6] reports one case in 8,000 intermuscular injections. Moeller[7] observed embolism 28 times in 3,835 cases; he then changed from intermuscular to subcutaneous injections and found no embolus in 240 injections. Neisser[8] had one embolus in 900 cases, and Epstein had seven in 8,292 subcutaneous injections. Paget says that 1 per cent. of all cases of paraffin injection are followed by embolism. Pfannensteil[9] reports a case of pulmonary embolism; the paraffin was at temperature of 115 F. Leiser[10] reports a case of thrombosis of the ophthalmic vein. Hurd and Hulden[11] report an embolism of the central artery of the retina following the injection of paraffin at 114 F. Paget[12] reports four cases in which paraffin injections were followed by chronic inflammatory thickening; in three of the four cases it was necessary to undo what had been done at the cost of a scar. Spicer[13] reports a case of paraffin getting into the eyelids. Smith[14] reports two cases of paraffin being

1. Paget: Brit. Med. Jour., Oct. 29, 1904.
2. Downie: Brit. Med. Jour., Nov. 8, 1902.
3. A. W. Morton: American Medicine, Oct. 24, 1903.
4. Bradley: Brit. Med. Jour., Nov. 5, 1904.
5. Smurthwaite: Brit. Med. Jour., Nov. 5, 1904.
6. Hartung: Arch. f. Dermat. u. Syphilis, vol. II, 1889.
7. Moeller: Arch. f. Dermat. u. Syphilis, vol. II, 1889.
8. Neisser: Arch. f. Dermat. u. Syphilis, vol. II, 1889.
9. Pfannenstell: Centralb. f. Gyn., 1902.
10. Leiser: Dents. med. Wochft., April 3, 1903.
11. Hurd and Hulden: Med. Record, July 11, 1903.
12. Paget: Brit. Med. Jour., Sept. 13, 1902.
13. Spicer: Lancet, Jan. 25, 1902.
14. Smith: New York Med. Journal, May 17, 1902.

carried to the inner canthus of the eye and one in which it was carried to the nasal cavity.

Brady,[15] after the lapse of six months, had to do a secondary operation on account of the paraffin being misplaced. On cutting down he found a mass of newly-formed connective tissue, fibrocartilaginous in consistency. Barker[16] reports a fatal case in which the melting point of the paraffin was below 110 F. M. Lejaris[17] reports a case in which, three months after a paraffin injection, there was a rapidly-developing swelling of the nose, the upper eyelids, and the left under lid. By making small incisions, minute particles of paraffin were removed. The swelling recurred again and it was necessary to remove small particles. In addition to these cases, I have collected from unofficial sources one case of blindness in both eyes and four cases of blindness in one eye.

In Paget's last report of 70 cases he states that in some cases the result is fairly satisfactory and in some he has failed to do much good. In a few cases he is sorry he ever meddled. He concludes his article by saying that plastic surgery would have been better in some of the cases.

CONCLUSIONS FROM STUDY OF REPORTED CASES.

1. From the foregoing complications, I do not think we are justified in assuming the risk of possible blindness for the correction of nasal deformities.

2. Plastic surgery should be recommended when possible because of the foregoing complications.

3. If paraffin injections are used at all, the cases should be selected, the paraffin should have a melting point above 115 F., and a screw-piston syringe, as recommended by Smith, should be used, so that by each complete turn of the piston a definite quantity will be introduced.

4. We do not know positively what becomes of the paraffin, but in the greatest number of experiments it has disappeared, leaving connective tissue. It is my notion that the development of the new tissue is due to a ferment that destroys the paraffin and produces new connective tissue.

5. I am satisfied that only a small number of the accidents have been reported that have followed the use of paraffin, as I am familiar with two cases in my own city; in one there was complete blindness in one eye; in the other partial blindness of one eye.

PLASTIC SURGERY.[18]

The operation for saddle-nose has a twofold purpose in view: Restoration of the bridge of the nose and the lowering of the cartilaginous part of the nose. According to König, the operation consists of lowering the tip of the nose by a transverse incision at the deepest part of the depression and filling in the defect by a flap from the forehead that carries with it the outer table of bone. This is afterwards covered by a larger flap, also taken from the forehead. Israel has modified this operation, improving the cosmetic effect. He takes a flap of skin and bone from the forehead with a narrow pedicle. Secondary quadrangular flaps are formed from the skin that has been freely loosened from the nose. Helferich has modified König's operation in a similar way. I consider the operation as practiced by Schimmelbusch the best of all the various modifications of König's operation. The frontal flap is cut so that the end is very broad, containing a plate of bone wider than it is long. The narrow pedicle consists of skin only; the large defect in the forehead can be remedied by the displacement of a large curved flap from the scalp. The flap of skin and bone is not transplanted at once into its new place, but is covered with gauze and held in a horizontal position by means of adhesive plaster for several weeks until it granulates well, giving plenty of time for necrotic pieces to be cast off and for the periosteum and bone to be firmly united. The operation is completed by freshening the edges of the flap and removing the granulations. The bony plate is sawed through lengthwise exactly along the middle, so that it can be set up like the ridge of a roof, with its skin surface internally; so shaped it is transplanted into the defect. The latter is formed by splitting the nose in its entire length and freeing down to the entire pyriform aperture. The connections of the soft parts with the bone are severed and the skin is dissected off to the sides. The old nasal skin, separated from the sides, covers only a part of the new bridge at its base. After about three weeks, the pedicle is severed and spread out over the freshened region of the glabella so that it lies in its original position. After several subsequent operations the skin may be gradually drawn over the newly-formed frame so that eventually only linear scars remain. Excellent and permanent results have been obtained from these various modifications of König's operation. The one just described is the most difficult and the most extensive. When we consider, however, that only a linear scar remains on the forehead, and that by replacing the pedicle a normal shape is given to the root of the nose and the glabella, we are justified in this procedure.

After it was found that the displaced bone formed a satisfactory and permanent support for the bridge of the nose, its transplantation in a more simple way was considered, because of the bad cosmetic effects from some of the plastic operations. Israel transplanted a piece of bone from the crest of the tibia. He freed the soft parts of the nose by a longitudinal incision and placed the bone under the skin, which he undermined from the edges of the wound. He has repeatedly succeeded in bringing about a good cosmetic effect in this way. De Ruyter and others have employed decalcified pieces of bone, platinum and silver, but not satisfactorily.

Wier[19] describes an operation in which he used the breast bone of a duck, making three incisions starting from the nasal bones, one on either side of the nose down to the alæ nasi; the third down the center. The bone remained in for three weeks, when one end came through the inside of the nose. One-half was removed and later the other, which he claims was disturbed by the removal of the first part. He says he will try it again.

Grafting of bones from other individuals has been practiced by Macewen and Ponct. I can not find a description of it in the literature. Booth[20] describes a superficial operation for saddle-nose of traumatic or congenital origin. He makes a linear incision to the tip of the nose, elevating the nasal bones and then separating the tissue on either side to a point corresponding to the compressor muscle. With catgut he gathers up the tissue, crossing the bridge; he carries out the same procedure on the other side. Tension on the suture will fill in the depression; the outer wound is closed by subcutaneous sutures. It seems to me that this is a very simple operation and likely to yield good results in selected cases.

Berens,[21] in a very recent publication, describes in

15. Brady: Australian Med. Gazette, May 20, 1903.
16. Barker: Lancet, March 21, 1903.
17. M. Lejaris: Lancet, June 6, 1903; from Societe de Chirurgie.
18. System of Practical Surgery by von Bergman and Bull., vol. I.
19. Wier: New York Med. Jour., Oct. 22, 1903.
20. Booth: Amer. Med. Jour., May, N. Y., Med. Jour., April, 1901.
21. Berens: Ann. of Otol., Rhin. and Laryng., September, 1901.

detail how he has overcome saddle-nose of traumatic or congenital origin by loosening the nasal bones and fracturing the septum in various directions, raising the depression and holding it in place by means of splints. I can not well understand how this can be done satisfactorily, as in traumatic or congenital conditions the bones and cartilage have assumed such position that when fractured and elevated into the new position to overcome the deformity they will not maintain the extra weight put on them, and it would be very hard to put a tampon so tightly that it would maintain this elevation. If this can be accomplished, however, it is probably the best of all the operations for saddle-nose of traumatic or congenital origin.

CONCLUSIONS IN REGARD TO PLASTIC SURGERY.

The conclusions in regard to plastic surgery of the nose are hard to define. In the first place, all cases of saddle-nose can be corrected by bone implantation, the cosmetic effect depending somewhat on the condition present prior to operation. Second, cases of traumatic or congenital origin are by natural selection more amenable to this form of treatment than cases that have an entire destruction of the bony and cartilaginous septum. In case of failure by bone implantation, one of the various modifications of König's operation may be tried; especially that of Schimmelbusch, as here described. Third, there are no serious complications, the cosmetic effect depending largely on the operating surgeon.

The deductions that must be drawn from the various conclusions lead one unhesitatingly to decide in favor of plastic surgery rather than paraffin injections. The production of new tissue by paraffin injections to overcome a deformity is almost ideal, but there is the uncertainty of possible loss of life or of vision and other minor complications, while with plastic surgery the surgeon works on better established principles.

Patient.—Male, aged 27, woodsman by occupation.

History.—The patient had a perfectly straight nose prior to an accident which happened two years ago, the limb of a falling tree striking him across the nose. The bridge of the nose was broken, producing the characteristic deformity. The patient had considerable hemorrhage from the nose for several days, and could not breathe through the nose for four weeks. The camp surgeon could not do anything for him, so after about two years he presented himself at the San Francisco Polyclinic.

Examination.—It was found that the injury was confined entirely to the anterior part of the cartilaginous septum, with a possible severing of the union of the nasal bones. The cartilage was fractured in such a way that either side which formed the support for the bridge of the nose turned into the nasal cavities, producing more or less obstruction.

Fig. 1.—Patient before operation.

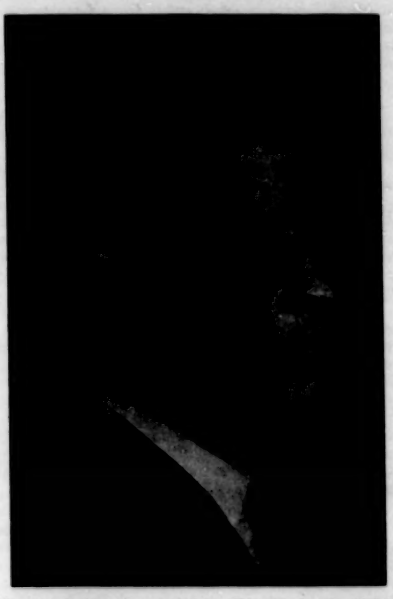

Fig. 2.—Patient after operation. The nose is not absolutely straight, but there is no deformity.

Operation.—This obstruction was first corrected, and then the operation was done for the transplantation of bone. The field of the two incisions was scrupulously cleaned 24 hours before operation, and a bi-chlorid of mercury dressing applied: An incision starting just below the union of the nasal bones was carried well into the tip of the nose, cutting down to the cartilage proper, separating the perichondrium in the hope that the implanted bone would form union at this place. At either end of the incision, the skin and fascia were undermined so that the bone could not be displaced. The skin and fascia from the sides were likewise dissected loose as these tissues were drawn tight over the bridge. This was done to lessen the tension on the implanted bone, as well as to assist in restoring the bridge of the nose. At this point I proceeded to remove the piece of bone from the crest of the tibia. The piece removed was about two inches long and the thickness of half a leadpencil. With this bone I removed more than enough periosteum to cover it, trimmed the edges with a pair of

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scissors, and placed it in a normal salt solution. Uncovering the wound in the nose, I adapted the bone to the cavity that had been made for it, and closed the wound by deep sutures. The periosteum of the tibia was sutured with cat-gut, and the skin with silk. There was not a drop of pus from either wound.

Remarks.—Before doing this operation I looked up some of the literature on plastic surgery of the nose, and concluded I would try to do this operation by a simpler method. I found that the implantation of bone from the lower animals had not been entirely satisfactory, and I decided to use a piece of bone from the patient himself, and the most desirable was that of the spine of the tibia. At the end of five weeks the bone was in place, and I intended to report the case as an original operation, but in the review of additional literature I found that my identical operation had been satisfactorily done before. It is now five months since the operation, and I have every reason to believe that the bone will remain in place permanently, provided it has sufficient nourishment; if not, it will atrophy with the possible formation of new connective tissue, which would be more ideal than at present. As stated before, I had hoped the bone would unite, but it did not. Since then it has become apparent that had it united a fracture would have followed the slightest traumatism.

The photographs show that there is not quite sufficient elevation to make an absolutely straight nose. Had the bone been larger, this would have been entirely overcome. In all cases of saddle-nose there is an apparent widening and in some instances a real widening of the base of the nose. This is overcome by lifting the bridge with a lowering of the tip; and this can be brought about by the length and thickness of the bone implanted.

This Israel modification of König's operation is in its infancy. With good surgical principles adapted to it, the use of bone implantation for the correction of saddle-nose will surpass all other methods of treatment for this condition.

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DISCUSSION.

Dr. W. S. Anderson, Detroit, said that when paraffin injection was first advocated he took the matter up, thinking possibly that it would be found satisfactory in the correction of many deformities of the nose. When he commenced his work there was little literature on the subject and he did considerable experimenting. He very soon found its limitations. The procedure seemed very simple, but the technic he found difficult and the results not altogether satisfactory. In saddle noses the skin frequently is not freely movable, so in many cases the paraffin will go everywhere except where it is wanted. Nevertheless, in a few cases Dr. Anderson got very good results, and in no case did he have a result that was positively bad; he did not make anyone worse. Since reading of the cases of blindness following this apparently simple operation he has hesitated to use the method. Such a result would be a very serious thing for the patient. Since this method is used for the cosmetic effect rather than as a lifesaving procedure, physicians ought not to take any risk. The first case in which he used it was that of a woman who had had for many years a typical saddle nose as the result of syphilitic necrosis. The result was very satisfactory, indeed. In that case the paraffin was used three or four years ago. He used it in another case in which a man was crushed under a beam and the nose was flattened out. A general surgeon did something toward repair, and later Dr. Anderson operated under a general anesthetic. He refractured the nose until it was very movable and raised up the whole organ. He used a urethral steel sound to raise it up and got very good results. He then did several operations under cocain to give better breathing capacity and finally injected the paraffin. This was done in November, and during the first cold spell the patient came in and said that his nose felt all the time as if it had "a chunk of ice on it." The paraffin was outlined in white, due to imperfect circulation. These symptoms all passed away after a few months when the circulation was re-established.

Dr. Otto T. Freer, Chicago, said that he has refractured noses that have been broken some two or three weeks before the resetting and in which the fragments have reunited in a faulty position, and he has seldom found the releasing of the broken pieces or their molding into the desired form difficult after this comparatively short interval. He has used the steel sound, as Dr. Anderson describes, in lifting up the bridge of the nose. The result, nevertheless, somewhat disappointed him, for in spite of tamponing the nose often would not stay in shape and some deformity would recur. Dr. Freer described briefly Dr. Robertson's method of operating in cases in which the nasal bones are driven backward between the nasal processes of the superior maxillary bone. A vertical incision is made in the center of the nasal bridge and the nasal bones are chiseled loose from the nasal processes of the frontal bone and lifted up, after the septum has been incised. The nasal bones are then fastened to the frontal bones with a wire attached to the frontal bone above the origin of the nasal bones. The wire is passed under the nasal bones and by tightening it these bones are lifted up into place; Dr. Robertson leaves the wire in place.

Dr. H. Foster, Kansas City, Mo., stated that when paraffin first came into use for the correction of deformity he tried it, using the hard paraffin boiling at about 180 F. He had difficulty in getting the paraffin into the tissues. He then read an article by Smith recommending melting paraffin at 110 F., and since using this he has had no difficulty. He believes that bad results are often due to the physician not being aseptic in the operation. While the rhinologist need not go into the details of asepsis like the general surgeon, they should boil the instruments and be as careful as possible in operations on the nose. In ten or fifteen cases Dr. Foster has had excellent results from the use of paraffin with a melting point at about 115 F. Dr. Roe of Rochester has frequently elevated the nose with wires, etc., with most excellent results. In some cases paraffin is ideal. In many cases of saddle nose from specific causes it is useful. It is better to use too little than too much paraffin. Physicians certainly must take some risk in these operations. Some objection could be raised to almost any operation. Dr. Foster declared that it is puzzling to know how paraffin may cause blindness. He has only seen the account of two cases of blindness attributed to paraffin in the records he has looked up. The physician should be careful in his technic; with absolute cleanliness this is an ideal operation. Many of these patients have cicatrices. The point of the syringe should not be introduced too deeply, and then by holding the finger at the inner canthus of the eye the paraffin is not likely to get into the inner canthus.

Dr. W. W. Pennell, Mount Vernon, Ohio, said that he treated a broken nose about six months ago. A man was skating on roller skates and went against a pillar and smashed his nose. Dr. Pennell replaced the bones, put in a rubber tube on either side and above that a smaller tube, which he kept in for a couple of weeks, replacing them from time to time. The result has been a very good nose without any particular deformity.

Dr. Robert C. Myles, New York, said that paraffin should always be injected cold. Formerly it was injected warm, but this has been abandoned because, in cooling, melted paraffin becomes hard in the syringe at the circumference, while it remains soft and warm in the center. Anyone who has had experience with warm pariffin knows how readily it diffuses. It is doubtful whether any difficulty would be experienced by the injection of small quantities of hard paraffin, 110 degrees or over, into the tissues, say three injections to a moderate saddle-back nose. Dr. Myles said that the injection of large quantities of warm paraffin has probably been responsible for the injuries to the eye, brain, kidneys and other parts of the body.

Dr. Cullen F. Welty said that probably Dr. Roe has done more plastic surgery of the nose than any one in the United States. He has good results. The descriptions of his operations are complicated and sometimes hard to follow. Dr. Welty repeated that so long as there is danger of producing an embolism with loss of vision and possibly life, physicians are not justified in using this procedure for the correction of a

deformity. He is thoroughly convinced that many of the unsuccessful cases have not been reported. As soon as a paraffin is obtained that will not cause complications there will be an ideal condition both from a pathologic standpoint and from that of cosmetic effect.

THE DIAGNOSIS OF INTRACRANIAL COMPLICATIONS OF SUPPURATIVE EAR DISEASE.*

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As a preface to the body of the paper, the following brief statistics on the subject may be quoted:

Hassler states that of 81,684 ear cases treated there were 116 deaths due to intracranial extension. Of these 48 died of sinus thrombosis, 28 of cerebral abscess and 40 of meningitis.

Körner reports that in 115 necropsies after death from ear extension, 41 died from sinus thrombosis, 43 from brain abscess and 31 from meningitis.

In an exhaustive article on the statistics of this subject, Pitt reports that of 9,000 autopsies made in the hospitals of London, the records representing the consecutive ones, and therefore was for deaths from all diseases, just as they naturally occurred, 57 were due to suppurations in the temporal bone, or one such death in every 158 running hospital cases, distributed as follows: 48 died of sinus thrombosis, 28 died of cerebral abscess, 40 died of meningitis.

Körner of Rostock, who has compiled most extensive statistics, shows that more than six of every 1,000 deaths from ear diseases are the result of brain abscess.

This frequency of otitic brain abscess and sinus thrombosis justifies the presentation of the main features indicative of the presence of such complication. The symptoms of intracranial involvement are so obscure throughout the earlier, and often the greater, part of their course as to remain entirely unsuspected by the attendant until a time when the extension is so great as to render the help of the physician of no avail; or what is equally unfortunate, the symptoms representing the intracranial involvement may be entirely mistaken for other ailments, and the serious nature of the trouble not comprehended until too late to be of any service to the patient. In view of the fact that, when untreated, infection of the cerebral contents proves almost without exception fatal, but that when early recognition of the invasion is made and prompt surgical measures taken for relief, about half of all cases promptly and satisfactorily recover, no pains should be spared in any suspected case to investigate and interpret every symptom at its earliest development, and to properly record the same, to the end that when sufficient evidence is present to justify it, surgical measures may not be delayed.

The latest pathology of brain and sinus infection points clearly to the fact that the entrance of the virus into the cranial cavity is through some one of the several open sinuses which practically surround the base of the brain, viz., the mastoid antra, middle ears, ethmoidal cells, frontal sinuses, antra of Highmore, and sphenoidal sinuses. Those who treat the diseases of the upper air tract find that the above-mentioned cavities are suppurating with great frequency, and often their mucosæ are polypoid; the bony walls are also often denuded of their mucous lining, and not infrequently areas of bony necrosis are found connecting a cavity directly with the cranial structures, thus permitting the free entrance of septic sinus contents directly into the cranium.

In the diagnosis, then, of any intracranial complication, the previous and present history of the case as concerns these open sinuses becomes of the utmost importance, since practically all statistics agree that suppuration in these localities has been found in the majority of all autopsies in which brain abscess, sinus thrombosis and meningitis have been found. Nor is it necessary that the patient give a present history of suppuration, because, and especially is this true as pertains to the ear, the statement may be made by the patient or his friends that, whereas there was once a discharge, lately the suppuration has apparently wholly ceased; that, therefore, no thought of connecting the former running ear with the present trouble has been entertained, and can only be found out by careful questioning and thorough examination of the parts. I lay great stress on this fact of the denial of ear discharge, because such denial was made in three cases of brain abscess which I have seen, in which operation proved the presence of chronic aural suppuration, necrosis and cholesteatoma. In these cases the pathologic conditions present were not productive of large amounts of pus, and the trivial quantity appearing in the external auditory meatus was readily dried into crusts which were easily mistaken for hardened ear wax. It should, therefore, be stated that no diagnosis should ever be regarded entirely satisfactory that does not include a thorough inspection of all the sinuses, and especially those of the ear. Since the symptoms of the two principal infective diseases under consideration vary very greatly, each will be considered by itself. It should be known that the symptoms of meningitis may complicate either those of brain abscess or sinus thrombosis, and so complicate and mask the real trouble as to render exact diagnosis difficult or impossible. It is also possible in any case that serous accumulations due to tubercle or that the pressure of a brain tumor may cause localizing phenomena of such nature as to render exact diagnosis most difficult.

SINUS PHLEBITIS AND THROMBOSIS.

The cause of this ailment may be briefly stated to be an infection of the vein arising from wounds about the head and neck, deep infections of the neck, infections of the tonsils, the nasal accessory sinuses, erysipelas and suppurations in the temporal bone, which latter cause is regarded by otologists as by far the most frequent of all.

The symptoms of sinus thrombosis are, in the later stages, most pronounced and usually unmistakable, the result of the general pyemic condition of the patient at this time. It is of the utmost importance, however, to the success of the surgery of this most fatal malady that a diagnosis shall be made before the disease has so poisoned the patient as to present symptoms which would be easily understood by even the indifferent diagnostician, because early diagnosis plus competent surgical interference equals commendable results, whereas late diagnosis plus either the most skillful surgery, or no surgery, is apt to result in disaster. The early recognition of the extension of any septic condition to the intracranial structures is usually difficult, and this fact has been spoken of as the weak point in the history of intracranial disease. In the very beginning of sinus thrombosis, when the thrombus is yet incomplete, and before disintegration has set in, exact diagnosis is usually impossible. However, a discharging ear can be found in nearly every case, and, when present, there has almost certainly been a complicating mastoiditis with its well-known symptoms. There may be suspicions of chilliness or even rigor, together with moderate rise of tem-

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

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perature, pain and tenderness, but all these could be entirely accounted for by the presence of the ear and mastoid diseases. The patient appears, however, to be suffering from a more depressing ailment than mere suppurative otitis, complicated by simple mastoid inflammation, and when these latter ailments are and have been persistently and incurably present, exploration of the mastoid is entirely justified, and a complete mastoid operation becomes, therefore, a diagnostic measure of first value in the earlier stages of a suspected sinus involvement. If such involvement be found not present, the operation is a prophylactic measure of greatest importance, as I have had frequent opportunity to observe in the very considerable number of cases in which, during the operation, I have found the bone carious or necrosed over the sinus, which later was covered with necrotic granulations and bathed in pus, thus rendering it certain that, without the free drainage afforded by the mastoid operation, the sinus must soon have become infected, thrombosed and putrid.

In the second stage the thrombosed sinus begins to soften and disintegrate, and septic portions are swept into the general circulation. The symptoms indicative of this fact, while more easily interpreted than those of the earlier stage, are by no means pathognomonic, and may yet be very misleading. The condition presented is one both general and local—general, due to pyemia, and local, resulting from the circulatory disturbances both inside and outside the cranium, that are incident to the blocking of so large a sinus. Headache, vomiting and dizziness are commonly found, but are such constant concomitants of brain abscess that of themselves they could scarcely be counted as valuable diagnostic aids. Outside the skull the occurrence of the following symptoms should be noted, if present, since they have valuable diagnostic bearing: swelling or edema behind the mastoid and over the entrance of the mastoid vein; swelling along the course of the internal jugular; edema of the eyelid of the same side. The fundus of the eye should be examined, but circulatory changes in the depths of the eye are by no means constant, for in 35 cases marked eye disturbances could be detected in only 9. Hansen found diagnostic evidence of lateral sinus thrombosis present in the fundus in only 3 of 8 cases. Körner found only 1 in 5 cases. Jansen found choked disc rarely present in simple thrombosis. By far the most characteristic symptoms are the high temperature, with remissions, and the septic chills. The latter, although the most constant, are not invariably present, and Whiting records the entire absence of rigors in 18 cases, and 48 are noted as having had but one. However, there is usually at least one chill in the twenty-four hours, and this is quickly followed by a rise in temperature to 103 to 104 or even 106, the fever remitting markedly, during which time the most profuse and exhausting perspiration occurs.

All or even a majority of the above symptoms are scarcely present in any one case, but if only a few of them are noted in any patient who has a chronic discharging ear, or who has an acute discharge that has pursued a violent course with undue lack of recuperative powers, the involvement of the vein should be thought of. The most accurate observation of all symptoms should at once be instituted and recorded, to the end that an amount of information may be obtained sufficiently early on which to base a positive diagnosis before the hopeless stage of metastasis has been reached.

Diagnosis in the final stage of the disease should not be difficult, but a diagnosis made at this late period is neither commendable nor useful. Septic emboli have found lodgment in the lung, producing septic pneumonia, with its harassing dry cough and oppression in the chest; or possibly the emboli have been carried to more distant parts, resulting in multiple metastatic abscesses and death.

Sinus thrombosis may be mistaken for malaria, typhoid fever, acute tuberculosis, and in children for acute digestive disturbances. In some instances the differential diagnosis is not readily made. However, proper energy in using the diagnostic measures now at the command of the profession will seldom fail to clear up the most difficult case in ample time to permit of the successful employment of one of the most triumphant of all surgical procedures, viz., exposure of the lateral sinus and internal jugular vein throughout their courses in so far as found diseased, the removal of their septic contents, and at the same time ligating the channels of entrance for further septic material into the general circulation.

SYMPTOMS OF BRAIN ABSCESS.

The symptoms of this ailment, like those of sinus thrombosis, are preceded and nearly always accompanied by a suppurating ear. The fact that the patient and his friends may deny the presence of such a discharge should never deter the diagnostician from making the most rigid examination of the condition of the fundus of the ear and ascertaining for himself, first hand and to an exact certainty, the actual condition of the middle ear and its surrounding cells. Every means of examination known to the otologist that will help in the accuracy of this examination should be used, to the end that the information thus gained is positive, and, therefore, of first importance and greatest value in connection with other symptoms which may be present and indicative of brain abscess.

Brain abscess may result from either acute or chronic suppurative otitis, and the symptoms in this respect vary considerably. I have seen three acute cases, in all of which the ear ailment from the beginning was severe, the pain excessive and the patient unusually prostrated within a short time. In so far as was noted by careful observation, no symptom arose during the course of the otitis which could have been pathognomonically diagnostic of the occurrence of brain extension, and it was, therefore, not known how early in the history of the ear disease that the abscess of the brain began. The ear symptoms in no case showed any signs of improvement at any time, and the pain about the ear and over the temple was much worse than would usually be expected in uncomplicated ear cases. In one, the worst of the three, this pain was intense and persistent and, being unaccounted for otherwise, was attributed to suppuration in the mastoid cells, and, although there was no pain, tenderness or swelling behind the ear, the mastoid operation was performed, pus in abundance was found in the cells, and assurances given the patient that the cause of the pain had been removed. Such promise was without sufficient knowledge of the case, the pain continuing unabated. Two days later paralysis of the arm of the opposite side, vomiting, unequal pupils, subnormal temperature and unconsciousness developed with great rapidity and so markedly that the diagnosis of brain abscess was made with little difficulty and, as proven by operation, with absolute certainty.

The two other cases were less severe as to pain, mastoiditis was present in each by the tenth day, and symptoms of brain irritation and pressure followed rapidly,

Rigors were not prominent features. Moderate elevation of temperature was at first present, followed by subnormal. Likewise an accelerated pulse, which later was very slow. Headache was present in all, and in each was far forward and about the brow. Each case at some time vomited. Only one of the three had any irregularity of pupil or marked paralysis of any muscle or group of muscles. The reflexes were highly exaggerated in each. The diagnosis of brain abscess was made on the following points: (1) A case of acute otitis media suppurativa, violent in every respect. (2) The headache, one-sided and about the orbital process. (3) Subnormal temperature and pulse. (4) Exaggerated reflexes. (5) Vomiting. (6) Exploratory operation.

If the abscess is the result of chronic suppuration within the temporal bone, the primary disease may have preceded the brain abscess only a few months, or the ear may have been discharging many years. There is usually very little evidence in or about the ear itself, further than the discharge, to warn either the physician or his patient of the approach or existence of serious intracranial disease. Many recorded cases show that the patient has followed his usual occupation often up to the day, or even the hour, that he is stricken down with the severe and fatal complication. Postmortem examination has demonstrated the fact that these abscesses must have existed for a long time, their presence being absolutely unsuspected by any one. It is believed, however, that greater care as to the examination of the ear disease, and of the local and general symptoms produced by the brain extension, would have made it possible to have reached a diagnosis of the true ailment before the fatal symptoms were present and at a time when well-applied surgery would have been worth while. It is doubtful if the physician who stands idly by as the attendant of one of these cases and permits the malady to go on to a fatal issue without recognizing its nature can lay claim to better management than could the Eddyite who denies the existence of all disease.

The symptoms of brain abscess in the earlier stages are like those of sinus thrombosis in the respect that they are often very indefinite. There is, however, probably enough evidence present in the majority of cases to cause the attendant to suspect the existence of brain trouble, and, if he be alert as a diagnostician, to cause him to give the closest heed to each symptom as it develops, and to interpret and properly record the same. Hemicrania is seldom or never wanting, appearing as an early symptom and persisting throughout. It is seldom complained of over the site of the abscess, and may be quite a distance from it, as in one of my cases in whom the pain was persistent and severe over the region of the frontal sinus of the same side of the head. Such a persistent headache in connection with a foul-smelling ear, in which necrotic bone, granulations and cholesteatoma is discovered to be present, should not fail in any case to cause the medical attendant to think of brain abscess. Irritable disposition of the individual has also been noted as an early symptom, but is usually most prominently spoken of after other and graver symptoms have developed, those observing it earlier thinking little of it at the time. I believe, as an early symptom and taken in connection with those mentioned above, that it has good diagnostic value. The temperature is either normal or slightly elevated in the beginning, but as the abscess enlarges and brain pressure becomes a prominent symptom there is almost certainly a subnormal body heat, and this fact becomes sooner or later a most valuable diagnostic one.

Accompanying the subnormal temperature, the pulse is greatly slowed, running as low as 60, 50 or even 45 per minute. These circulatory and calorific disturbances may occasionally be accompanied by rigors, but while a chill may occur at some time during the disease it is certainly not to be compared in diagnostic value to that of sinus thrombosis.

Vomiting is a symptom almost certain to be noted at some time during the progress of this disease. It comes on in many cases sufficiently early to become of very great value, provided it is recognized as a symptom in connection with others occurring at the same time. It has been my privilege to be present on many occasions when the vomiting occurred, and the term "projectile," used to describe it, is not misapplied. However, in the earliest stages there may be retching and the presence of bile in such amounts as to mislead the physician into a diagnosis of intestinal or liver ailment. One such case in which the vomiting was persistent was diagnosed "irritation of the pneumogastric nerve," and this after consultation, and by medical gentlemen of good training.

The fundus of the eye furnishes evidence which, taken in connection with other symptoms, has important bearings. Such eye changes have been found in about one-half of all the brain abscesses in which careful examination was made.

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PECULIAR SYMPTOMS FOLLOWING A RADICAL OPERATION.*

GEORGE F. COTT, M.D.
Clinical Professor of Otology of Buffalo University.
BUFFALO.

Patient.—Dr. N. C. H., Buffalo, N. Y., consulted me during her student years regarding a fetid discharge from the left ear. I found a large perforation in the drumhead and carious bone wherever the probe reached. She received local treatment four weeks, when the discharge stopped. After several years she called on me again, complaining of unbearable pain in the ear. She was then under the care of Dr. Buswell for myocarditis. She had a pronounced regurgitant murmur and often had severe pain in the region of the heart; this occasionally kept her awake until 4 or 5 o'clock in the morning, and when that did not trouble her the pain in the ear would take its place. I consulted Dr. Buswell and was advised that he would get her ready for operation. I put this off as long as possible, but, as the pain in the ear became unbearable, she insisted on an early operation.

The previous history of the case will give an idea of the amount of destruction which had taken place without any marked symptoms. At the age of four weeks, the patient had suppuration of the right middle ear, which continued for seven months. There was no further trouble until the age of 21, while attending lectures at the Buffalo Medical College. There had been no discharge since, but more or less constant pain. By advice of friends she consulted a prominent specialist of New York City, who saw her five times during her stay. He advised her to allow no one, under any circumstances, to operate on that ear. I knew nothing about the New York visit at the time I operated, a week later.

Operation.—On May 12 she entered the Sisters' Hospital. On account of the condition of her heart, Dr. Hoover tried to anesthetize her with nitrous oxid and oxygen, but after a half hour's trial this was abandoned and ether substituted. Dr. Buswell took charge of the anesthetic, but after another tedious trial, had to abandon it for chloroform, to which she readily responded. I then did a complete radical operation and found the mastoid cells and accessory cavity filled with granulations and débris, but no pus. The ear was then dressed and the patient put to bed. She soon regained con-

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

sciousness, but had considerable pain, and at 9 p. m. was given ¼ grain morphin hypodermically. She slept intermittently about five hours during the night, vomited green fluid at 4 in the morning, and several times during the next few days. She slept at intervals, but always complained of pain after waking.

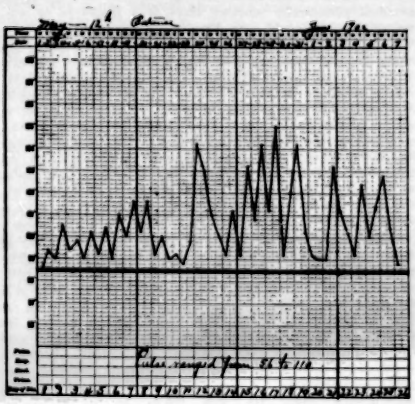
Postoperative History.—Two days after operation the dressing was changed on account of pain. The ear looked very well. The urine was examined and the specific gravity was found to be 1028, otherwise the urine was normal; indican was present. The wound was dressed again May 17 and 18; pain was constantly present.

May 18: The patient sat up forty-five minutes; she was restless the whole night following and morphin 1/6 grain was given.

May 20: Patient slept well.

May 21: Patient slept very little before 4 a. m.

May 28: A twenty-four hours' sample of urine, tested by Dr. Brown of the Sisters' Hospital, showed specific gravity 1007, indican slight, urea 50 per cent., a large number of epithelial cells, a few bacteria and pus cells; the reaction was neutral.



May 25: On account of the vacillating temperature, a blood count was made by Dr. Wixen: Leucocytes, 13,300; red corpuscles, 5,500,000.

May 24: The temperature suddenly took a jump to 104.4 and kept rising and dropping until June 1, reaching 105, May 29.

May 26: There was pain in the region of the heart; at 11 p. m. she had a slight chill and was restless all night. Twenty-four hours' sample of urine showed: Color pale, reaction neutral, appearance cloudy; specific gravity 1005, urea 29 per cent., a large number of epithelial cells and many bacteria.

Examination of the eyes by Dr. Hubbell: Fundus, both eyes, normal except perhaps abnormal fullness of central retinal veins and long branches; no optic neuritis. Pupillary reaction to light normal; vision not disturbed.

Consultation and Subsequent History.—Having decided, in consultation with Drs. Henry Buswell and Edward Meyer, that there was a sinus phlebitis with probable thrombosis, arrangements were made to operate next day, June 1. On the day before there was a slight chill and nervous twitching of the limbs. Dr. Hubbell again examined the eyes June 1. He found great fullness of the retinal veins in both eyes. On the evening of June 1, the time when we had intended to operate, the temperature did not go much above 101, then dropped to 99.4. This led us to postpone active interference for a short time. The following day the temperature jumped to 104.4, then dropped to 99. This was followed by a rise to 103.4, declining again the following day. It rose again June 4 to 102.6.

On June 3 she slept all night; on June 4 she had a slight chill; on June 5 and 6 she had pain in the region of the heart. On June 7 the temperature dropped to 98, and after that never rose higher than 100.4 except on the day she left the hospital, when it was 104. Urinalyses were frequently made.

Blood Examinations: Frequent examinations were made of the blood, the last one on June 6, the day of the final regular rise in temperature, this time by Dr. Charles S. Jewett. He found leucocytes 9,000.

DIFFERENTIAL COUNT.

	Per cent.
Small lymphocytes	5.5
Small mononuclear and transitionals	2.5
Polymorphonuclear neutrophiles	92.0
Eosinophiles	0.0
	100

While there is no numerical leucocytosis, the differential count is highly suggestive of an inflammatory reaction. The stained specimen shows no other abnormalities.

During the rise and fall of temperature, the patient's pulse varied from 56 to 110. She was markedly neurotic, which fact caused us to hesitate before exploring the sinus, and the result seemed to show the wisdom of this precaution. She was able to leave the hospital June 15, the thirty-fourth day after the operation. During the following year there were times when she suffered considerable pain in the ear, but not sufficient to call for opiates. The temperature I have never found normal; however, she has very much improved in general health. One point in this connection is of considerable interest. The doctor was perfectly apathetic regarding the outcome of the operation, knowing, with her crippled heart, the risk she was taking; in fact, rather urging us on when we contemplated opening the sinus. She has now gained in flesh, sleeps much better, and the ear is practically well.

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DISCUSSION

ON PAPERS BY DRS. BARNHILL AND COTT.

Dr. Hill Hastings, Los Angeles, said that he has seen several cases with intracranial symptoms in which nothing was found either at operation or autopsy. In one case he did a simple mastoid operation and there developed in about a week paralysis of the external rectus of the eye on the same side as the operation. It worried him considerably because he had not heard of a similar case and had rather suspected an intracranial involvement. The patient had also a good deal of dizziness both before and after the mastoid operation, and the discharge from the middle ear continued after the operation. Those three things made Dr. Hastings suspect intracranial involvement. After three or four days he concluded to convert the mastoid operation into a radical operation, and then he found a fistula through the inner wall of the inner ear, through which pus escaped. The patient made an uneventful recovery. Dr. Hastings did not think it wise to go into the brain unless there were stronger indications. He could find nothing similar in Politzer, nor was the complication present in 300 cases that he had observed for some time. His attention was called later to an article in which a writer (Gradenigo) reported several cases of acute suppurative otitis media in which paralysis of the external rectus occurred. The paralysis passed off and the author had concluded that it was due to a localized meningitis at the tip of the petrous portion of the temporal bone, which had involved the nerve. It is an intracranial symptom that worried Dr. Hastings a great deal, since he thought possibly he had a brain abscess to deal with. He has seen several cases in children in which there were very active meningeal symptoms that passed off without serious trouble. He had one case that he practically gave up. The child had active meningitis. It could not nurse, was unconscious, had paroxysms of twitching and regu-

lar spasms. He kept the child in a mustard bath for several hours, and it subsequently recovered. Politzer mentions headache in the orbital region as a very valuable sign of abscess of the brain. His chief indications are slow pulse, yawning and increasing dizziness with headache. Dr. Hastings had one case of brain abscess in the temperosphenoidal lobe, with severe pain referred to the orbital region, which immediately subsided on cleaning out the abscess cavity. The abscess recurred after six weeks. He did not keep it open long enough and the woman was later seized with the same symptoms and the old cavity was opened up and found to be filled up again with pus. The patient complained of the same old pain in the orbital region. Those are very important symptoms. Dr. Hastings had not seen paralysis of the external rectus before. The fact that there was pus in the urine in Dr. Cott's case indicates that that may have had something to do with the irregular fever. Again, it may have been a malarial case. The fact that the sinus was not uncovered and examined makes it difficult to prove anything about it. It seems to Dr. Hastings that physicians should always look at the sinus in such cases. Almost any general surgeon would regard that as a proper procedure. If it is inflamed and there is serious doubt, it should be opened. A thrombus should not be left behind to break down and cause sepsis.

DR. GEORGE L. RICHARDS, Fall River, Mass., said he has had some rather unfortunate experiences with brain abscess. He does not think there are any symptoms or combinations of symptoms that are pathognomonic of brain abscess. There may even be no symptoms at all prior to the most serious manifestations. A case that came under his observation illustrates this latter point. A man of middle age, with a history of an old purulent otitis media, was admitted to the eye and ear department of a general hospital where there was no distinctively aural surgeon. The visiting surgeon ordered a mild wash with which to wash out the ear, and after a day or two, as the man was much better and the discharge practically stopped, he wished to go home. He was discharged by the interne at his own request, and left the hospital the latter part of the afternoon of the day of his discharge. He did not reach his home that night, but was found the next day at noon in a swamp, unconscious and hemiplegic. Dr. Richards was called by the surgeon, and after opening a sclerosed mastoid and finding nothing to account for the symptoms, he trephined above the ear and made the old classical operation that the surgeons do. The dura did not pulsate and an incision was made about a quarter of an inch into the brain substance and from one to two ounces of the foulest smelling pus was evacuated. There was some improvement in the general symptoms for a day or two, but death occurred on the fourth day. Dr. Richards asked how could anybody, no matter how trained as an aurist or how conversant with the symptoms of brain abscess, have made a diagnosis in such a case. Yet no doubt that abscess had been in existence for days or perhaps weeks.

DR. C. F. WELTY, San Francisco, declared that by a process of elimination with the various means at our disposal it may be possible to clear up many doubtful cases of cerebral complications. Of course there are some cases that can not be diagnosed at all; if there are, it seems to Dr. Welty more of a guess than a diagnosis based on rational conclusions. He was visiting one of the most noted ear hospitals, and making the rounds with the surgeon in charge, when he said: "Doctor, I have an intuition that this patient has a cerebellar abscess; we will operate in the morning." The patient was operated on the following morning; no abscess was found. Two days later some pus was discovered coming from a previous incision that had been made through the dura, which communicated with a large abscess cavity in the cerebrum. At the time Dr. Welty asked the professor about this intuitive feeling in this case, and his reply was that sooner or later all otologists who operate, experience the same. In this particular case there was a slight indisposition on the part of the patient; otherwise he was perfectly comfortable for a patient who had been operated on a short time previously. The question when to operate, in Dr. Welty's opinion, is much more easily decided. Practically all patients with cerebral complications die if not operated on; we also know that to decide that a case is meningitis does not make it so. Dr. Welty has seen a number of meningitis patients operated on; of course they die. He has also seen a few cases that happened to be brain abscess, and some few of these patients got well. He saw one patient get well from a meningitis, which had been diagnosed and demonstrated by lumbar puncture, and he believes that there are some eighteen on record. In cerebral complications the earlier the operation the more chance the patient has of ultimate recovery. It is a conceded fact that most of the cerebral complications come from chronic suppuration of the middle ear. Dr. Welty asked if anyone could give him any plausible reason why an ear should be allowed to discharge for years when it can be cured by radical operation and the danger of cerebral complications absolutely eliminated. He estimates that 15 per cent. of all patients with chronic suppuration of the middle ear die from cerebral complications if they are not operated on at all. This estimate is based on a series of operative cases that would have terminated fatally had the process not been interfered with.

DR. W. S. BRYANT, New York, said that Dr. Barnhill emphasized an important point, that is, that the ears should be examined periodically whether there is a discharge or not, just as careful people have their teeth examined regularly. They do not wait till they have lost their teeth before consulting their dentist. In that way a great deal of deafness and suppuration can be avoided. The patient's statement regarding discharge is often worthless. In all chronic purulent ears Dr. Bryant thinks that the mastoid antrum is involved, and the mastoid cells, and if there is any question as to any complication following this involvement, the mastoid operation is indicated. The general practitioner should be instructed so that he can recognize suppuration, at any rate, and then he can recommend the patient to go to a specialist. It is too much to expect the general practitioner to make a diagnosis of cerebral conditions that puzzle those who make a specialty of this class of work. Occasionally there is paresis of the external rectus; this may follow in chronic cases and occasionally it has been observed in acute cases. Dr. Bryant has seen it last about nine months after a radical operation was performed.

DR. A. DEVILBISS, Toledo, Ohio, stated that in probably no other class of cases there are fewer pathognomonic symptoms indicating whether or not operation is advisable. Recently he was called as an expert witness in a case of supposed murder by a saloon man. A man staggered into the saloon and was pushed over. He was taken to the hospital. Dr. DeVilbiss was called to see the case to consider operation for a supposed fracture of the skull. Unfortunately, he got there too late; the man was already dead. He suggested a postmortem, since there would probably be a trial, and this revealed a brain abscess. Dr. DeVilbiss examined the ear and found otitis media and pus in the ear at the time, and undoubtedly the brain abscess was the result of mastoid trouble. These operations, if made by careful hands, by men who have studied the cadaver well and who have had sufficient instruction, are not very dangerous, and he thinks it is due these patients to have the operation done when there is a chronic otitis media, especially when there are symptoms of mastoid involvement.

DR. GEORGE L. RICHARDS, Fall River, Mass., asked whether or not the operator shall look at the sinus. When he has reached the diseased bone and all the cells have been opened, Dr. Richards believes that it is unwise and unsurgical to go further and to uncover the lateral sinus. In the more destructive suppurative conditions, especially in children, when the granulations have been cleared off with the curette or otherwise, and a sinus is found that is apparently healthy, he hesitates to open it. He used to do so a few years ago just to see if the blood would pulsate, but now he leaves the lateral sinus alone unless he has definite symptoms to lead him to open it.

DR. KASPAR PISCHEL, San Francisco, called attention to lumbar puncture, which in doubtful cases may give valuable information regarding the presence of meningeal affection.

DR. FRANK W. HILSCHER, Spokane, Wash., said that several deaths have occurred in his practice because the diagnosis was not made sufficiently early. If these cases could be recognized before it is too late, it would be a step in advance. There are many cases of brain abscess that go on for months or possibly for years without symptoms or with so few symptoms that they are not discovered. He saw a case a few years ago, in a patient who was a physician, in which there was a brain abscess that involved a large portion of the brain. A sphenoiditis and ethmoiditis had broken through into the fore-brain and the whole fore-brain was involved. The patient had been ill more or less with ill-defined symptoms, mostly pain and headache. He had not seen a rhinologist or otologist, except the very first man he went to, who recognized the trouble in the nose and insisted on operating. The physician was very much annoyed because the rhinologist seemed anxious to do surgery in his nose. He went to others, none of whom recognized the true condition, and after a lapse of about three years he fell into Dr. Hilscher's hands. The patient died while he was under observation, without an operation or anything having been done. The only symptom in that case, except headache, was a sort of mental incompetency. Another patient was in the hospital about six weeks, supposed to be suffering from typhoid fever. He had no symptom referable to the ear until two days before Dr. Hilscher saw him. He then began to have an otorrhea from the left ear. Dr. Hilscher dressed his ear in the ordinary way and it readily healed, but his temperature curve was characteristic; it had never been a typical typhoid fever curve. A short time before Dr. Hilscher saw the patient the temperature had been 104, and then it was reduced to 95 or 93. Then it rose again. That led him to suspect a thrombosis of the lateral sinus and perhaps a brain abscess; but the diagnosis was not clear, since the man had never complained of the ear before and there was no tenderness over the mastoid, and particularly since the otorrhea stopped after one or two dressings. However, because of the presence of the fever and the emaciated condition of the patient, and the fact that he could eat and drink almost nothing, Dr. Hilscher made an exploratory examination. He found the mastoid largely destroyed; lateral and sinus thrombosis, and quite a large abscess of the brain. The patient was so reduced that the operation had to be stopped before it was completed. Dr. Hilscher expected to complete the operation at another time, but the patient never rallied sufficiently. In another case, a young man had otorrhea for a number of years, and there were no brain symptoms until suddenly one day he could no longer keep his balance. He was taken home and treated by a general practitioner for a while. A short while before he died Dr. Hilscher saw him and made a diagnosis. An operation for abscess of the cerebellum was done, but he died.

DR. W. W. MURPHY, Los Angeles, related the history of a case that came under his observation. The patient was a young woman from Chicago, on whom a radical operation had been done. Three subsequent operations were done, at each of which some portions of the necrotic cranium had been removed. The patient had gone to Los Angeles for her health. While there she was sleepless and had headache and some fever. She came under Dr. Murphy's observation and he called in Dr. Hastings, because of the gravity of some of the symptoms. They found a little sinus in the roof of the canal and some oozing of pus. Considering the history of the case and the number of operations the patient had undergone, they thought there was probably a brain abscess. They directed her to go back to the surgeon in Chicago who had operated before, and she did so. After the operation the surgeon wrote that there was no evidence of cerebral abscess. He had probed around as much as he thought best without finding an abscess. In a day or two Drs. Murphy and Hastings received a letter stating that the abscess had broken through, and the patient died.

DR. G. P. POND, San Francisco, said that if physicians would look more carefully at the symptoms, instead of taking the patient's word, so many of these cases would not go on to a fatal termination without the otologist knowing anything about it. For instance, in the case of the man who went out of the hospital and the next day was found in a marsh, if he had been examined more carefully some evidence of pus would probably have been found. If otologists examined the eye, looked for areas of anesthesia or changes in nerve reflexes, they might often find symptoms that would give valuable clews.

DR. G. A. LELAND, Boston, said that as one studies individual cases there are so many symptoms that may be obscure or left out, that it has been his experience that even the neurologists themselves who are working continually in this field, seem to be at sea. A case in point occurred at the City Hospital in Boston recently. Death suddenly came on the seventh day after exenteration for chronic suppurative ears. An eminent neurologist said it was due to cerebral hemorrhage; Dr. Leland's diagnosis was probable rupture of a latent abscess; autopsy showed encephalitis. This case, he said, calls to mind others in which the postmortem findings have thoroughly upset the diagnosis. He agreed with Dr. Barnhill that otologists should endeavor to find something more definite on this subject, and said that to this end they must work together with the neurologists and alienists, and must also attempt to induce the general practitioners to put these cases of chronic suppuration immediately into the hands of the aurist. He advised educating the people so that autopsies can be readily obtained. It is common as well as aggravating that ignornant relatives refuse an autopsy frequently for no other reason apparently than to exercise a little brief authority, or to malignantly block the doctor.

DR. S. L. LEDBETTER, Birmingham, Ala., said that a patient came to the hospital clinic, recently, complaining of suppurative otitis media of three weeks' duration. On operation, pus was found in the mastoid cells in the antrum, a subdural abscess in the middle fossa, and an abscess lying between the bone and the lateral sinus, so it was only a question of a short while before he would have had serious trouble. A year ago Dr. Ledbetter had a patient start out with an acute inflammation of both ears and with high temperature from the beginning. On the second day he opened both drums and the discharge lasted two or three days. He tapped the drums a second time without result. There was no further discharge. The temperature continued to go up and on the seventh day he opened the mastoid on one side and found pus all through the cells. The pus had extended to the dura. Intracranial complications, he said, are frequently found when least expected.

DR. ROBERT C. MYLES, New York, said that if all the patients who have been operated on by prominent surgeons as well as by tyros, could be collected it would be found that in many cases there was no intracranial abscess. He agreed with Dr. Leland as to the necessity of educating people to permit autopsies in these cases. Dr. Myles said that he has seen a number of cases in which autopsy proved nothing, and that if people could be educated to permit autopsies in cases in which intracranial disease had not been found in patients by the operator, it would be possible to solve many of these problems.

DR. JOHN F. BARNHILL declared that anyone who attempts to look up the literature, when he has a patient for whom he is anxious to do the very best he possibly can, will be surprised to find how little of real value has been written since MacEwen's time. There are very many papers, excellent in nature, and many short reports, but there is no modern treatise on the subject that seems really helpful. Dr. Whiting, in the preface to his recent book, promises an early treatise on the subject, and Dr. Barnhill hopes it may be such as one would expect from a man of his ability and experience. No one should open the cranial cavity without the strongest diagnostic reason, because such an act must never be lightly regarded by the surgeon. If there is not present trouble which requires such an operation, it is quite possible that the operator may cause a death. Dr. Barnhill said it is always highly dangerous to open the cranial cavity; to do so unnecessarily, exposes the patient to a risk that should not be taken except in the presence of grave danger. It has been his practice, when first seeing one of these cases,

unless there are symptoms present that seem to be imperative, to watch, to record the temperature and pulse carefully, and to examine all the secretions; in other words, to go into it as carefully and thoroughly as modern medicine admits. All the early symptoms must be recognized and interpreted, the dizziness, the ear that has possibly ceased to discharge, the headaches and other recorded symptoms that should not be allowed to go unnoticed. If there is a little pus at the bottom of the ear that smells badly; if the patient has a headache on the same side of the head, which may be over the eye; if he has vomited and had restless nights, then the case should be observed most carefully, and the observations recorded and weighed before the cranium is opened. The experience of all men, whose experience justifies their speaking and writing, is the same, viz., that there are cases that seem to be symptomless. Dr. Barnhill asked if they are not symptomless only because physicians do not recognize the symptoms. It seems almost inconceivable that a four-ounce abscess may be present in the brain without symptoms. Frequently, it seems, the patient becomes accustomed to a certain amount of pain so that he no longer complains. Some individuals will tolerate, for instance, a tack in the boot half an inch long without complaining, or an individual will long endure an ulcerated tooth without complaint. Such a person may have symptoms of abscess of which he has ceased to complain. He recalled the case of a boy 8 years old in whom an operation evacuated at least four ounces of foul-smelling pus from the tempero-sphenoidal lobe. An examination of the limiting membrane of the abscess proved it to be of great thickness, and therefore that the suppuration was of long duration. This boy had been in school making good grades almost up to the time of the operation. His mentality had been unusually keen, and until a few days before the operation little complaint had been made further than that there was a discharging ear. Careful inquiry, however, elicited the statement that at times the patient had been dizzy, had suffered from one-sided headache and had vomited. Such attacks had readily subsided, and were attributed to derangement of the digestion. The presence of so much pus for so long a time, and with so few noticeable symptoms seems to Dr. Barnhill remarkable, and he believes that in this, as in all such cases, there are present, possibly from the beginning, more indications of the disease than are usually noticed by those in attendance. The otologist who is in a position to know the lurking dangers that are hidden in the suppurating sinuses that lie about the base of the brain on all proper occasions, should emphasize the importance of watchfulness during such ailment that graver symptoms may be earlier recognized. He does not deem it wise to operate for intracranial disease without the advice of a skilled neurologist, who is better able, in most instances, to interpret more accurately the reflexes that are present and thus be of very practical aid in locating the seat of the disease in the brain. It has been said that the neurologist has made so many mistakes as to the presence and location of the disease that his advice has proved of little assistance, but Dr. Barnhill has found quite the opposite, and will continue to avail himself of the neurologist's skillful assistance in such cases. Whether or not the surgeon should explore the lateral sinus in a case in which the contents of this channel are suspected to be infected, is one which should be given the most careful consideration in any case, and, in his opinion, unless symptoms be present that are quite indicative of the presence of such trouble, the sinus should not be opened, because if not diseased, such surgical procedure would add unnecessarily to the dangers of the case, since in entering the sinus the operator must go through a wound that is infected, and although every antiseptic precaution be taken, infection of some part of the sinus contents is probable; indeed, this unfortunate occurrence has been several times reported.

DR. GEORGE F. COTT said that the cases referred to in which at operation nothing was found, possibly were due to uremia or something else. He thinks that they have occurred invariably in the practice of general surgeons and not in that of otologists. In 50 cases Dr. Cott has opened the skull ten times. When it comes to a question of trouble caused by the ear, and the otologist is in doubt, it is a good thing to call in the neurologist. Brain abscess may be present months or even years without symptoms. In one case, in which he did a radical operation, he found a sinus leading into the brain, he slit open the brain one-half inch and curetted, and the patient made a good recovery. Seven months afterward Dr. Cott found a large brain abscess, from which the patient, a woman, again apparently recovered; a few months later it again occurred and she died. Apparently she had no symptoms of brain abscess. These symptoms followed a radical operation. One should not hesitate to open the skull when there is some reason for doing so. Within a very few months Dr. Cott has had to operate on a patient who was treated for six weeks for typhoid fever. There was thrombus from the torcular to the bulb and an epidural abscess; the boy died. There are many cases due to irritation of the dura, pachymeningitis or adhesive inflammation between the skull and dura. There is practically no danger in opening up such cases under asepsis. If there are pronounced symptoms, one need not necessarily explore the brain; if symptoms are present and the patient apparently will not live long, one should not hesitate to explore. Dr. Cott has had good results in every case except the one of brain abscess.

TREATMENT OF ACTINOMYCOSIS AND BLASTOMYCOSIS WITH COPPER SALTS.*

ARTHUR DEAN BEVAN, M.D.
CHICAGO.

I desire to make a very brief preliminary report on the subject of the treatment of cases of actinomycosis and incidentally blastomycosis with copper salts. I do this at this time because I believe that, on account of the rather limited number of cases of actinomycosis and blastomycosis that come to one man, collective statistics of a trial of this method of treatment will do more to give us early definite and positive knowledge of its value than can be obtained by limiting it simply to the treatment of the few cases that come to my service.

Last year we had a half dozen cases of actinomycosis in my service, and since that time, at the Presbyterian Hospital, there have been a number of others, both in my service and in the service of Dr Billings and other attending men. We have found, as others have, in connection with the treatment of actinomycosis, that the iodid salts had very definite and very positive effects, and we have been successful in curing circumscribed lesions, especially about the mouth and the tongue and the neck, with iodid of potash combined with the *x*-ray, using the iodid, as has been emphasized by Dr. Ochsner, in an intermittent way, that is, giving the iodid of potash for a period, then discontinuing it, and then giving it again. We have noted this fact, that although marked impressions were made by the iodid salts on all cases of actinomycosis, that nevertheless the cases of abdominal actinomycosis and of lung actinomycosis were fatal in a large percentage of instances. Probably 70 per cent. of cases of abdominal actinomycosis are fatal, and probably 90 per cent. of lung actinomycosis are fatal in spite of the iodid treatment.

I want to refer to some of the cases which I reported last year. One patient with abdominal involvement, whom I reported as greatly improved under the iodid, has since died with a very definite brain lesion. I have no doubt, although we are unable to obtain a postmortem, that it was a ray fungus lesion of the brain. In one of our lung cases, on the other hand, there has been apparently a surprising recovery, and I want to make a statement in regard to that case. The patient whom I

* Read before the Chicago Medical Society, 1905.

showed last year, at which time we found ray fungi in the sputum, was treated for a long time with iodid, using as high as 180 grains a day, with distinct improvement. Later a lesion of the testicle developed, which was opened, and found to be a chronic abscess, but no ray fungi were found by the operator, who opened this accumulation of pus, although it is fair to presume that it was a ray fungus lesion. The iodid was discontinued in May. The man was poor and very anxious to support his family by returning to his work. After returning to his work, which brought him out in fresh air most of the time, he improved steadily. A few days ago, when I saw him, we found no active evidence whatever of the process. In actinomycosis, as in tuberculosis and in many other lesions, a most important factor in overcoming the disease is undoubtedly the increased resisting power of the individual, and I think that factor should be considered in all of these cases. In spite of our iodid treatment, which has been so successful in local lesions, we have not been able to save most of our patients with lung involvement and our abdominal cases of actinomycosis. Because of that fact we have been looking out for some other method of treatment.

It is a well-known fact that the ray fungus occurs normally as a rust on grain. Within the last few years there has been a good deal of work done by scientific agriculturists with the use of copper in destroying parasites of vegetables. You are all familiar, I have no doubt, with a number of articles that have appeared in scientific journals and the lay press, showing the great destructive effect of copper in minute solutions in reservoirs of water, destroying the algæ and low forms of vegetable life. The ordinary rusts on grain can be readily destroyed by minute solutions of copper sulphate. The sulphate seems to be the most powerful of the copper salts. It is a very destructive agent to vegetable parasites and is well borne by animal organisms. My attention was called to these facts, and inasmuch as the ray fungus occurs in nature as a rust on grain, I thought it might be worth while to experiment with copper as a treatment of ray fungus in the human being. We have done this now in several cases. In one case we began with one-quarter of a grain of copper sulphate, three times a day, then increased it to half a grain, and we have given some of our patients as high as one grain, three times a day. The irrigation is made with a 1 per cent. solution of copper sulphate.

The French chemists (especially in connection with the subject of the possibility of chronic poisoning from the use of copper as a dye in canned vegetables, peas, etc.) have done much work to determine the toxicity of copper used internally for a considerable period, and have shown that copper sulphate can be used in doses of from two to eight grains a day, for six months at a time, without any deleterious effect to the individual. This was an important point to determine before making an extended trial of the salts. Copper occurs as a normal constituent in small amounts in the higher animal form, in some low animal forms as the oyster, it occurs in large amounts. Copper is readily absorbed by the stomach and intestines.

The so-called brass poisoning, which has been extensively discussed, is not due to the copper apparently, but to some other elements which enter into the brass. In addition to the use of copper in actinomycosis, I might state that we have used copper salts in two cases of blastomycosis. It is now a well-established fact (a suggestion which I made at the time of the report of the first case of blastomycosis in the West by Dr. Hyde, Dr. Hektoen and myself) that the iodid salts are curative in blastomycosis. The iodid of potash has a very powerful effect, used internally, on cases of blastomycosis. Many of these cases have been cured with iodid alone. For the superficial cases, the ordinary treatment of blastomycosis to-day is the combined use of the iodid and the *x*-ray. Possibly, as has been shown by some experiments conducted by Professor Haines and myself, the *x*-ray may produce a more powerful effect or rather the iodid may produce a more powerful effect in combination with the *x*-ray, because, as we have shown, free iodin is given off as a result of the action of the *x*-ray on iodid solutions. It has been found, however, that some of these cases resist the *x*-ray and the iodid treatment, and this is especially so with cases of general blastomycosis. I have been informed by Dr. Oliver Ormsby, who has seen so many of these cases of general blastomycosis, that they have all been fatal in spite of the iodid treatment. Therefore, we can not consider the iodid as a successful means of treating general blastomycosis, no matter how successful it has been in the cutaneous cases combined with the *x*-ray. Inasmuch as copper salts seem to have such an effect on actinomycosis, I thought we might use it in blastomycosis, and we have employed it in several cases.

ILLUSTRATIVE CASES.

The effect of the copper salts is shown in one patient with extensive blastomycosis. This man came from a western city, with extensive blastomycosis involving the entire dorsum of both hands, and we have been treating him with the copper salts. We have used the copper internally in one-quarter grain doses, three times a day, and later in half-grain doses, three times a day, and are using the copper sulphate as a wash in 1 per cent. solution. This right hand has almost entirely cleared up. It was a very serious, extensive lesion at first. The other hand is not as clean. There is still a lesion at one point which is suppurating, but there has been no extension, and very marked improvement under the copper treatment.

Another case is one of abdominal actinomycosis. Most of these cases are probably secondary to a ray fungus lesion, either of the appendix or of the cecum. The patient developed an enormous lesion which filled the entire pelvis. He was operated on, and an abscess cavity opened, fistulæ were found extending in all directions. The patient was placed on large doses of iodid of potash, and in spite of this treatment suppuration continued and fistulæ continued to develop. About six weeks ago I placed him on copper sulphate, using the sulphate of copper internally and as an irrigation. At the time the iodid was used we employed the *x*-ray, and there is a distinct coloring from the use of the *x*-ray on the skin of the abdomen. We had repeated demonstrations of the pathology. The ray fungus could be found in the pus at almost any time. There was extensive infiltration of the recti muscles by the process; fistulæ were developing at all times, and now this process has almost entirely cleared up under the copper treatment. The patient has gained twenty pounds in weight since the first of September (six weeks) under this treatment.

Now, I do not want to create an erroneous impression in regard to this treatment. We are simply experimenting with it, and I submit it to you with these results. I present the treatment as one that seems to have a logical basis and seems to have produced marked curative effects. As I have stated, I think a collective experimentation on our cases of actinomycosis and blastomycosis should be undertaken in order to determine the value of copper as a cure for these conditions.

It may be possible that as in syphilis, where certain cases are better handled with the mixed treatment of mercury and the iodin salts, so in actinomycosis and blastomycosis it may be shown by further trial that the mixed treatment of copper and iodin salts may be in certain cases the most effective.

REPORT OF TWO CASES OF TYPHOID FEVER, WITH PERFORATION AND OPERATION.*

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BENGUET, P. I.

A mild epidemic of typhoid fever occurred in this mountain settlement during the dry season just passed. There were seven cases in all, five of the patients being members of a gang of Japanese carpenters who lived on the lower floor of the servants' barracks of the Civil Government Sanitarium. The upper floor was occupied by Chinese and by native Filipino servants, but no case of typhoid occurred in the building, besides the five Japanese. The origin of the infection of the carpenters is uncertain, but it is probable that the first patient contracted the disease in one of the neighboring road-camps and that the flies, of which there was a plague during the dry months, carried the infection from his dejecta to the food of his companions. A general infection of the water or food supply of the neighborhood doubtless would have affected a larger proportion of the forty or fifty carpenters messing together, and many Filipinos would have been exposed.

One of the two patients concerned in this report was a Japanese carpenter; the other was a native Igorrote, a private in the local detachment of constabulary. The latter lived and messed in the constabulary quarters about one-quarter of a mile from the Japanese barracks, together with about thirty Igorrote and Ilocano comrades, and, as no other case developed there, it is fair to assume that he was infected at some other place, probably in the lowland road camps which he visited on duty from ten to fifteen days before he was admitted to the sanitarium.

Of the seven cases of typhoid fever, four were uncomplicated and rather mild in character; one was complicated by long-continued hyperpyrexia and parotitis; two were complicated by intestinal perforation and peritonitis, and the following is a brief résumé of their history:

CASE 1.—Typhoid fever; perforation about fifteenth day of disease; operation; death.

Patient.—Guteng, Igorrote constabulary soldier, about 25 years old, was admitted to Civil Sanitarium, Baguio, Feb. 24, 1905.

History.—History of illness previous to date of admission unknown, except that he had been indisposed for several days, but had persisted in doing duty about the quarters. He had visited laborers' camps in the lowlands ten or twelve days before admission to the sanitarium.

Course of the Disease.—February 24, his temperature reached 105, pulse 104, and he had roseola on the back. The spleen was somewhat enlarged.

February 27, there was mild delirium during the day, and at night the patient left his bed and attempted to leave the ward. There was moderate diarrhea.

March 3, the case proceeded uneventfully, with tendency to delirium, until early this morning, when the patient gave evidence of severe pain in the bladder and penis immediately after passing urine. At 8 a. m., when I examined him, he was suffering from shock, was chilly, pulse thin and 120 and face pinched. The abdominal recti were very rigid. The abdomen was tender, but not markedly so.

The patient was stimulated with strychin and brandy hypodermically, heat locally, enemas of hot water and brandy and warm saline transfusions. There was no improvement or prospect of reaction by 4 p. m.

Operation.—At 4:30 p. m., ten and a half hours after the first symptoms, laparotomy was performed. Ether was the anesthetic used. An incision was made in the median line, one and a half inches long. Several ounces of flocculent serum escaped. There was no fecal odor. There was intense hemorrhagic peritonitis, the intestines having a mahogany red color. I examined about three feet of the ileum without finding the perforation. The pulse was too rapid and feeble to count, and death on the operating table seemed imminent. In view of the desperate condition of the patient, the character of the peritonitis and the possibility of the peritonitis being non-perforative, I decided to desist from the search for a perforation. I irrigated the peritoneum with hot saline solution and left the abdominal cavity full of it, and closed the abdominal wound with sutures, including all tissues. The pulse and general condition were better for half an hour after operation than all day, but soon declined again. The patient was left on the table and given high enemas of hot water and brandy. There was no reaction to hypodermics of adrenalin chlorid, one to twenty-five thousand, 30 minims and later 60 minims every fifteen minutes. The patient died at 9 p. m., about four hours after the operation.

Autopsy.—A partial autopsy was performed at 10 p. m. A perforation of the ileum was found in a coil of the intestine just above the bladder. The ulcer of the mucous membrane was about one-half inch in diameter, but the opening in the visceral peritoneum was small and apparently plugged with exudate. Several punched-out ulcers of the ileum were found reaching to the muscular coat. There was intense general hemorrhagic peritonitis, with large patches of plastic exudate.

CASE 2.—Typhoid fever; apyrexia; relapse; perforation on thirty-fifth day of disease; operation; recovery.

Patient.—Musiaka, a Japanese carpenter, about 25 years old, was admitted to Civil Sanitarium, Feb. 8, 1905, with a history of having been ill in the Japanese quarters with chills and fever for four days. There was no diarrhea.

Course of the Disease.—February 8, temperature 101.4, pulse 82, otherwise negative.

February 12, there was a diffuse rash on body, probably due to quinin; no splenic enlargement. Blood was sent to Manila for Widal test. Temperature gradually rose in afternoon to 103.2.

February 13, diazo reaction positive. Two roseolar macules were found on back.

February 14, several roseolar macules appeared on back and chest.

February 16, diazo test again positive; spleen normal.

February 19, Widal test of February 12 reported negative.

February 26, no fever for eight days. Patient sat up in chair for a short time. Evening temperature was 101.8.

March 10, temperature increasing daily, reaching from 104 to 104.5 in evening. The nervous system of the patient was much affected.

March 17, patient was groaning with pain about 4 a. m., when the nurse called me. The pain was referred to the region of the bladder, where patient kept his hand pressed. There was tenderness over the entire abdomen, but not marked. There was also board-like rigidity of the recti. Pulse was dicrotic. After consulting with Dr. Snyder, U. S. N., and Dr. Torney, of Manila, who were guests at the sanitarium, immediate operation was decided on.

Operation.—March 11, 8:40 a. m., four hours and forty minutes after first symptoms manifested, Dr. Torney gave ether. A median incision, one and a half inches in length, was made. A small amount of turbid fluid escaped; there was no fecal odor; there was a beginning peritonitis, and small areas (¼ inch in diameter) of exudate on the ileum at regular intervals where the coils were in contact with the perforation. Over the bladder was found a perforation of the ileum; the opening into the peritoneal coat of intestine was one-quarter inch in diameter; the gut was red and much indurated for about one inch of its length, and the peritoneal coat was friable. I closed the perforation with interrupted silk sutures (Lembert), irrigated the intestine before returning it to the abdominal cavity, and then flushed the abdominal cavity. I left a small gauze drain reaching to vesicorectal fold, and closed the abdominal wound with silkworm gut, including all layers of tissue, and leaving lower angle of wound open for drainage.

Result.—March 12, the temperature dropped to 99.6 in af-

* Read before the Manila Medical Society, 1905.

teen hours. General condition was improved. I removed gauze drain at 9:30 a. m. and inserted a fresh one.

March 13, patient was semicomatose, with fluttering of lids and contraction of flexors of hands and fingers. There was no tympanitis nor tenderness over the abdomen. There was no nausea. He began to take nourishment, clear chicken broth. The nervous condition improved during the afternoon.

March 14, patient passed a good night. He had some stupor and nervous symptoms in the morning, but they were less marked. A fresh crop of large roseolar macules, one-quarter inch in diameter, appeared on face, body and legs.

March 15, there was slight tympanites and a discharge of serous fluid from wound.

March 20, patient improving rapidly; small stitch abscess.

March 27, no fever since March 21; wound healed perfectly.

April 11, no fever for twenty days, but very constipated; patient began to sit up; no abdominal discomfort.

May 2, patient was discharged, cured, and was advised to wear a flannel binder, as a support, for several months.

The observation and treatment of these two cases, with but little aid from the few text-books at hand, have led me to the following opinions concerning the technic and the relative time of the operation for perforation; also concerning the pathology of perforation and the symptomatology of perforation proper in relation to that of the resulting peritonitis.

Since my first notes on the operations I have read two excellent reports on similar cases, one a report of 19 cases by Dr. Morris Manges,[1] and the other a report of 12 cases by Dr. George L. Hays.[2]

The conclusions of these authors confirm some of my half-formed conclusions and shed light on some of the obscure features of this most interesting and desperate complication of typhoid.

If these reports had reached me two months earlier than they did, I should have proceeded with the treatment of my two cases with much clearer ideas of both the pathology and surgery of the condition and with proportionately greater peace of mind. The general text-book, surgical or medical, is inadequate and unsatisfactory and, as Dr. Manges aptly remarks, "the lore which lies buried in society reports, hospital bulletins and medical journals is not the working stuff which reaches the general practitioner and guides him in the darkness and despair which envelope these gloomy hours" (of recognizing and treating perforation). How shall we determine the degree of shock that would make it advisable to postpone operative interference in these cases?

The "American Text-book of Surgery" advises as follows:

"He (the surgeon) should operate as quickly as possible, but not during marked shock if it is present. In this case he must wait, but only a reasonable time, for the rally, hurrying the reaction, etc."

In Case 1, while waiting for the patient to rally, I delayed longer than I should in the future. The patient never, in fact, rallied from the shock, but after the operation was finally performed his condition improved slightly for about an hour. In future, I should operate as soon as possible after establishing a diagnosis, except in case of extremest shock or of imminent death.

Rapid cleansing of the peritoneal cavity and the absorption of warm salt solution left in the abdomen should aid in relieving the shock. Rapid closure of the perforation, using local anesthesia or ether as a general anesthetic, should not add so much to the existing shock as would the unrelieved and progressive peritonitis and septic intoxication.

1. The Journal A. M. A., April 1, 1905, p. 1016.
2. The Journal A. M. A., April 22, 1905, p. 1265.

Case 1 emphasizes the difficulties offered by such complications as delirium, stupor or obtunded sensibility due to any cause, for such conditions may veil the symptoms of perforation and peritonitis until they have progressed too far to be susceptible of relief.

It will be noted that in Case 2 the operation was begun about five hours after the first symptoms of perforation were manifested. In both cases, about an inch of the intestine adjoining the large perforating ulcer was greatly inflamed and indurated and all the intestinal tissue was friable. Owing to the danger of the sutures cutting through and of the development of other perforations in the same area, I was impressed with the possible advisability of performing enterectomy under such conditions.

I am still inclined to believe that such an operation performed by a rapid and skillful operator would give the patient the best chance of recovery in a condition like that in Case 2, in which shock was moderate and the peritonitis incipient, by preventing the possibility of a secondary perforation from that area at least and perhaps diminishing typhoid intoxication by the removal of a large ulcerating nidus of the disease.

I note that Dr. Hays meets the danger of the rupture of sutures closing the perforation by anchoring that portion of the intestine to the upper angle of the abdominal wound.

Concerning the symptomatology, both cases presented typical and convincing symptoms of peritonitis from the first moment when complaint of pain gained the attention of the attendants.

The first patient was delirious and the time of the beginning of his pain was uncertain, but early in the morning of the day of operation he cried out frequently during efforts to urinate, and examination revealed undoubted signs of peritonitis. In both cases, the pain was referred to the region of the bladder, and to the penis in one case; there was marked rigidity of both abdominal recti muscles in both cases; there was tenderness over the entire abdomen, but especially the hypogastric region; in Case 1 the patient suffered from great shock, sweating and chill, with rapid intermittent pulse, pinched face, pallor; in Case 2 the patient had moderate shock; poisoning of the nerve centers in his case being usually evidenced by twitching of the muscles of arms and face and by a rapid fluttering of the eyelids, much like that observed in certain cases of hysteria.

I was impressed by the fact that there must have been an interval of many hours between actual perforation and the acute symptoms of peritonitis in Case 1 and a considerable interval in Case 2. In the latter case, there was a large opening into the intestine, giving evidence of a necrotic process of several hours' duration. In the former case, there was an advanced general peritonitis, and even in Case 2 there was a well-marked local peritonitis, with patches of exudate on the coils of the intestine in contact with the perforated ulcer.

It may be stated, therefore, that in both cases the symptoms calling attention to the perforation were due to secondary peritonitis and not to the actual rupture of the intestine.

In this connection, the following statement made by the "American Text-book of Surgery" appears to me to be misleading, namely: "When perforation occurs, the individual passes into a state of profound shock." This is true in a sense, but the passage into the state of shock is slow and proceeds *pari passu* with the septic peritonitis.

Dr. Morris Manges, in his report, makes the following

pertinent statement: "It also becomes easy of comprehension that most physicians expect too many and too pronounced symptoms for an early diagnosis of perforation, for the appearance of which they often sacrifice the golden time for successful operative interference, since the fact is so often overlooked and so seldom understood that the perforation itself causes little shock and may even afford temporary relief."

Shattuck, Warren and Cobb[3] state that "early warning pains, earlier by a definite number of hours than the severe symptoms, occurred in 14 out of 21 cases of perforation reported by them."

All these facts emphasize the necessity of frequent careful palpation of the abdomen by the physician to determine at the earliest possible moment the occurrence of perforation before the resultant infection, peritonitis and shock have had a chance to proceed far in their development. Equally important is an alert and intelligent nurse, instructed to be on the lookout for the earliest symptoms of the complication.

Special Article

IMMUNITY.

CHAPTER XXXI.

ACTINOMYCOSIS.

Actinomycosis is a chronic infectious disease of man and animals, the lesions of which present, characteristically, a central mass of purulent and necrotic material containing colonies of "ray fungi," about or through which is disposed an abundant growth of granulation or fibrous tissue. In young or rapidly progressing lesions the amount of purulent material is large, while in older lesions well formed connective tissue is more conspicuous. The disease prevails especially among cattle, although it is met occasionally in the horse, hog, sheep, dog, cat and other animals; man is infected not infrequently.

Although the threads of fungi had been found in diseases resembling actinomycosis in 1845 and later, Bollinger, in 1877, gave the first accurate description of the disease in cattle, and in 1876 J. Israel described it as a new disease in man. A short time later Ponfick demonstrated the identity of bovine and human actinomycosis.

The Fungus. The specific organism, *Actinomyces bovis et hominis*, on culture media consists of a mass of delicate threads which exhibit "true branching" and which, to a certain extent, segment to form "spores." The radially arranged groups of cells which occur as macroscopic granules in the pus of the actinomycotic abscesses, and which gave to the organism the name of the "ray fungus," are essentially a manifestation of parasitic existence; they are not formed in cultures. Each granule represents a colony of organisms the members of which possess club-shaped extremities, and in the center of the mass and extending from it are many of the delicate threads found in cultures of the organism. It grows on various culture media, often as a mold, and stains by Gram's method.

Resistance. The actinomyces is an organism of considerable resistance. Cultures remain alive for one year or more when in a dried condition and the spores in one instance germinated after having been preserved for six years. A temperature of 80 C. for fifteen minutes kills the spores (Bérard and Nicolas). When suspended in bouillon spores are killed in fifteen hours by direct sunlight, but when thoroughly dried, approximately ten days' exposure produced no injury.

Attempts to place the actinomyces in a botanic system have resulted in many differences of opinion. By some investigators they are considered as an independent family midway between the hyphomycetes and the schizomycetes (bacteria), others place them under the hyphomycetes in the group of the streptothrix, while still others consider them as pleomorphous bacteria placing them in the group cladothrix. Petruschky recognizes actinomyces, streptothrix, cladothrix and leptothrix as genera in the family trichomyces, the latter belonging to the order hyphomyces. Biological variations which have been encountered have led to the recognition of several species of actinomyces, among which are a number of non-pathogenic forms. Wright limits the term actinomyces to those strains which produce colonies of clubshaped organisms in animal tissues.

Artificial Infection. Many attempts have been made to transmit actinomycosis to animals by inoculating them with the diseased tissues of animals and man, and with pure cultures obtained from these tissues. Although a number of experimenters have reported positive results, by far the greatest number of the attempts have been fruitless. Probably Wright has been more successful than others in producing actinomycotic lesions in rabbits and guinea-pigs by the inoculation of pure cultures. Colonies of club-shaped organisms developed with considerable uniformity. In many instances the infection remains localized, not causing the progressive and destructive changes which actinomycosis produces when it occurs naturally.

Transmission and Infection Atria. The organism has been found on grains, straws and other kinds of feed, and such bodies are commonly discovered in the initial lesion of the disease. Usually in cattle, and frequently in man, infection is accomplished by their implantation in the soft parts of the mouth (gums, tongue), or in carious teeth. Transmission of the disease to man by eating the meat of actinomycotic cattle has not been noted. In man the disease is primary in internal organs (lungs, intestines, liver, brain, etc.) in a large percentage of the cases, whereas "lumpy jaw" is rare. The disease extends locally by the gradual involvement of adjacent tissues, which in time become occupied by sinuses, abscesses and masses of connective tissue. Numerous "spores" and bacillus-like cells, having their source in the fungous threads, abound in the vicinity of a colony. The occurrence of such forms in leucocytes and other large mononuclear cells has led some to the view that the micro-organisms may be carried to neighboring tissues or to distant parts as cell inclusions. In cattle the disease usually is more chronic than in man, more fibrous tissue is formed and metastases in internal organs are less frequent. In man the lesions are more purulent in character, large abscesses sometimes form as in the liver, and metastases in visceral organs are more common. Cases of general actinomycosis are occasionally met with in both cattle and man.

Prophylaxis. Little can be said in the way of prophylaxis against actinomycosis. Knowing the part that infected grains, straws, etc., play in instituting infection, the practice of biting or chewing grains or of using straws as toothpicks, evidently is one which affords opportunity for infection. The presence of carious teeth has often been suggested as a predisposing condition for infection.

Immunity and Susceptibility. Practically nothing is known concerning the degree to which susceptibility to actinomycosis prevails, and the question of immunity to the disease remains unexplored. The inability to reproduce the infection in animals at will renders impossible the systematic study of these questions. The presence of large numbers of polymorphonuclear leucocytes in the vicinity of the organisms suggests, but does not prove, that they may have some influence in combating the infection. Surely the abundant mass of connective tissue which develops about the abscesses and sinuses aids in confining the process to a definite region.

That the iodid of potassium has a curative influence on some cases of actinomycosis seems to have been well demonstrated. The principles by which it produces its effects are unknown.

MADURA FOOT.

Mycetoma, or Madura foot, resembles actinomycosis in the formation of abscesses, sinuses and granulation tisue, but it shows a peculiar predilection for the foot, which probably is

3. Report of Dr. Manges.

explained by the greater exposure of this part to infection.

Mycetoma.

This disease differs from actinomycosis in that the course is more chronic and it is never accompanied by generalised infection. The bones are not involved so frequently as in actinomycosis. Granules similar to those of actinomycosis are found in the cells, which, however, do not assume the pronounced club shape seen in colonies of the ray fungus.

Two varieties of the disease are known, one in which the granules are brown or black and another in which they are white or yellowish; the latter is encountered much more frequently than the former.

Pure cultures of the organism, which is called *Streptothrix maduræ* (Vincent), were first obtained by Vincent in 1894, and have been studied by a number of observers since that time. It bears a close resemblance to the actinomyces and by some is considered a variety of this organism. Differences between the black and white varieties are not clearly set forth. The disease occurs in southern Asiatic countries, in northern Africa, and in the United States (rare).

INFECTIONS BY STREPTOTHRIX, CLADOTHRIX AND LEPTOTHRIX.

Streptothrix Infections.

Cultures of streptothrix, differing from the actinomyces, have been obtained from the lungs in a number of instances and in various countries. They have been found in such lesions as bronchopneumonia, or more extensive consolidation of the lungs, and in cases of empyema. In other instances organisms which have been classed as streptothrix or cladothrix have been cultivated from processes which resembled actinomycoses.

Nocard considers a streptothrix as the cause of *farcin du bœuf* (farcy of cattle), a disease encountered especially in the countries of southern Europe, and similar organisms have been cultivated from suppurating or granulomatous foci in other animals.

Leptothrix buccalis, a thread-like organism which does not form branches and, hence, is not an actinomyces nor a streptothrix, is frequently found as a saprophytic organism in the mouth cavity, and a similar fungus, *Leptothrix vaginalis*, has been encountered in the vagina. Although organisms of this type are relatively harmless, they have occasionally been found in diseased conditions of the tonsils and pharynx.

Clinical Notes

A PRELIMINARY REPORT ON THE SPIROCHÆTA PALLIDA.

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AND
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ATLANTA, GA.

Having demonstrated the *Spirochæta pallida* in eight specimens taken from two chancres and a mucous patch, we desire to make a preliminary report of our findings, which were shown at the Atlanta Society of Medicine on Oct. 5, 1905.

The *Spirochæta pallida* was described by Schaudinn and Hoffmann last spring, and it is claimed that it is found constantly in the primary and secondary lesions of syphilis and may be an etiologic factor of importance. Whether or not it is the cause of syphilis remains to be seen, for it has not yet been isolated and cultivated and, of course, there must be a long series of cases by a number of observers before any conclusions can be drawn. The fact that these micro-organisms have been found by reliable independent workers in primary and secondary lesions and by Metchnikoff and Roux in monkeys inoculated with syphilis, and have not been found in any other lesions, seems to justify us in the belief that they may be the cause of this disease.

The stain that gave the best result was Giemsa's eosin and azur i and azur ii. With this stain the organisms appeared a translucent pinkish-red of high refractive character. They were best shown in slides where the red cells were of a light slate-green and the white cells well outlined in deep purple.

In length these organisms vary from one to six times the diameter of a red blood corpuscle and have many small curves, giving them a corkscrew shape, which is well marked in nearly every specimen. In thickness they appear a little narrower than a tubercle bacillus. In many cases there are very few spirochætæ, and, being very pale, they are difficult to find, while in other cases they are plentiful. One specimen showed nine in one field.

This organism may be differentiated from the *Spirochæta refringens*, which is larger, thicker, stains a deep blue and has much wider and less numerous curves. After once seeing the *Spirochæta pallida* it can not be easily mistaken for either the *Spirochæta refringens* or tissue shreds. In the beginning, however, the elimination of certain tissue shreds caused us considerable difficulty.

CLINICAL REPORTS OF SOME OF THE RARER FORMS OF HYSTERIA.*

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Case 1.—Hilda M., aged 4, was admitted to the St. Joseph's Hospital of Pittsburg October, 1904.

History.—Mother died of tuberculosis; father healthy. She has always been delicate. She had typhoid fever at the age of 2½ years. Has a very bad temper, which is partially inherited. She has lived at various places, and has never been controlled. At times she is a lovely child, but when in a fit of temper nothing will induce her to smile. She is very thin, pale and delicate looking. She is poorly developed, with some marks of degeneracy.

The accompanying chart will show the hyperpyrexia suffered during one of the nervous attacks to which she is subject.

Case 2.—Katie H., aged 24, who had always lived at home; domestic; came to me in October, 1904.

History.—She has had stomach trouble and neuralgic headaches for two years. Three years ago she had a severe fright, followed in twenty-four hours by a heavy weight in the back, which traveled up the spine rapidly. The right arm became very heavy and its use was lost. There was a continual rotary movement to and fro (pronation and supination), with abduction and adduction of the elbow at the rate of 120 per minute, which lasted about a week. It stopped for two or three months, when it returned from another scare, which lasted a day or two. She was free for about a year. Since then she has had frequent attacks. They last from a few hours to two or three days. She has attacks in the leg and face. At times she has attacks in the left arm, when the elbow is flexed, the hand raised with a striking motion, very rapid. There is no pain with these attacks. When there is quiet in the limbs there are likely to be attacks of pain in the head and pain and heaviness in the back. She sleeps well. The motion may or may not cease while sleeping.

Examination.—Knee jerks present. No ankle klonus. Pupils react. Right shoulder seemed to be atrophied over the collar bone, and the upper edge of the pectoralis muscle during an attack in which I saw her. This appearance, however, disappeared when the motor attack passed off. The inner border of the scapula was prominent above and below. This also disappeared when the attack passed off. No puncta found. When the motion ceases, the use of the hand is normal. She has to sit crooked, spine flexed to left, and lean on the left elbow, or there seems to be an irritation at the os cervix. There is no mental trouble.

An attack of decided severity which occurred in my office with motor involvement of the entire right side and the left arm, lasting one-half hour, promptly disappeared on the sug-

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

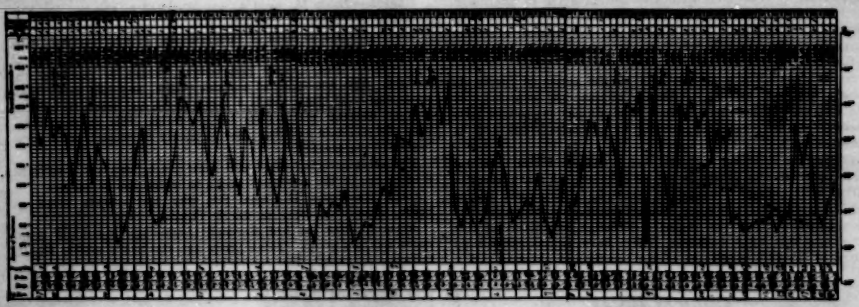
gestion that it would be train time in twenty-five minutes. She arose, arranged her toilet within ten minutes and went to the train.

The attacks cause her no fears, and she discusses them as being trivial. Both she and her mother think the attacks have made no inroads on her health, nor is there left any motor disability between attacks. The amount of force expended in an attack is very great, with no apparent fatigue.

CASE 3.—H. K., aged 29, came to America from England at the age of 4 years.

History.—Parents living, one brother died of consumption at the age of 17 years. Otherwise the family history is negative. The sister next to him is very infantile; has a defect in her speech; rarely menstruates, and has some marks of degeneracy. His personal history showed no serious illness up to January, 1900, when he fell, striking the back of his head against a post, and being rendered senseless for half an hour. He was under a doctor's care for two weeks. Six months later he had a peculiar convulsive attack, in which there was a rhythmic spasmodic jerking of the diaphragm at the rate of 180 a minute. He has had eight of these attacks which last sometimes for eighteen or twenty hours. The attacks are always the same. In his attacks the amount of force expended is great without apparent exhaustion. Perspiration is excessive.

Examination.—The palate is highly arched, eyes small, abnormally shaped, balls prominent, pupils equal, reflexes normal.



Dr. W. H. Kirk has kindly furnished the report of the eyes which follows:

Vision: O. D. 20/40 —.
O. S. 20/40 —.
Correction: O. D. + 50 sph. = + 75 cyl. x 90° = 20/20 —.
O. S. + 50 sph. = + 75 cyl. x 90° = 20/20 —.

In the right eye the disc is slightly swollen and the vessels are very full, with hyperemic condition of the retina. The tension is normal, muscles in good condition, eye ball very prominent.

In the left eye the disc and vessels are swollen and very hyperemic. When examined over one year ago the choroid was in good condition, but on this examination, July 3, 1905, there is a slight choroiditis in the lower half of the eye, which does not seem to give him any trouble. The retina is in a fair condition, slightly congested, tension normal, eye very prominent, muscles in good condition.

Feb. 11, 1905, Pershing reported: The characteristic movement is a rhythmical oscillation affecting one part. In these two cases it was rapid, although it may be slow and apparently deliberate. If it had been organic other evidences of the reflexes would certainly have given some indications. The movements were somewhat grouped and the motions rhythmical, with no apparent fatigue, although the amount of force expended was very great. They were not controlled by restraint. Attention seems to aggravate the movements.

Krafft-Ebbing, in 1900, reported a case of hysteria simulating paralysis agitans.

Hysterical hyperpyrexia is usually found in the adult female from 18 to 40 years of age. It may, however, occur in the male and in very young children. I have seen the temperature go above 118 degrees in two adult females (reported at the Denver session, 1898), but in a child the highest was between 105 and 106. This was the one above reported. Such children are likely to have bad tempers, with little desire to control them.

Another form, hysteria agitans (motor hysteria, major hysteria), is seen mostly in the adult male or female. These attacks I have found to occur mostly in persons of a very unstable nervous system, often with degenerative stigmata. An attack may follow anything that weighs heavily on the mind. It may be confined to a group of muscles, a hemi-hysteria, or it may be a general attack. The motions may be to and fro, rotary or otherwise. The body, supine position, may perform all kinds of twitchings, abdominal motions, spasmodic jerkings of the diaphragm, similar to hiccough, rapid facial gyrations, rubbing the feet together, falling out of bed, etc. These motions may be very much modified if the attention of the patient can be engaged.

The movements are rhythmical, without apparent fatigue, though they may be violent and extend through hours of duration. It is possible by restraint to control the movements to a limited degree.

In Case 3 I have seen no signs of fatigue after 17 hours of continuous motion of intense degree.

The patient perspires excessively. The motions are usually controlled by hyoscin hydrobromate. I have not known the patient to have an attack when not working. He does much better when idle.

The following interesting questions arise:

Is there an irritating product formed within the cortical neurons?

Is there a paralyzing product within the cortical neurons?

Is there an irritating body or product in the plasma which bathes the nerve cell?

Is there an increase in the formation of cytotoxins?

Is there a decrease in the elimination of the metabolic waste product?

A CASE OF FOREIGN BODY IN A BRONCHUS.*

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Patient.—On March 19, 1905, I was called to a neighboring town to see T. G., a boy, aged 5 years and 7 months, who, for the past twelve days, had suffered with a bad cough and an irregular fever, ranging from 99 in the morning to 104 in the

* Read before the Med. Soc. of the District of Columbia.

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1905

evening. He seemed cheerful and free from pain, but there was a frequent cough, consisting of two or three expiratory efforts. The temperature was 105; the pulse, 120, and the respirations, 60 a minute.

Examination.—The expansion was markedly diminished on the right side of the chest. The voice was too weak to allow of the detection of any differences in tactile fremitus, but there was certainly no increase over any area. Percussion showed a slightly higher pitch over the entire right lung, but only one small area of dullness extending from the angle of the scapula down to the liver. This area was oval and about 6 cm. wide at the broadest part. Over it the breath sounds were very faint and there was no increase in fremitus (an atelectatic area?). The respiratory murmur over the entire right chest was very faint and in marked contrast to the puerile breathing on the left. A sonorous râle could be heard in various localities over the right chest, but there were no fine râles anywhere. The leucocyte count was 42,000.

History.—The condition was at first quite puzzling, but it seemed clear when the following history was obtained:

On March 7, twelve days previously, the child, while eating peanuts, laughed and at once had a violent choking spell. The paroxysm continued until, while jumping up and down to shake off his overcoat, he said he felt something slip down and was at once relieved. He seemed much exhausted and slept for an hour. A physician was called, but found nothing abnormal. Immediately after his departure, however, a loud, wheezing noise developed in the chest which was noticed by the child himself and by those about him. That night the boy slept well and the next day he was as bright as usual, but toward evening he seemed sick and his temperature was found to be 101. From that time he had fever of a hectic type.

The second paroxysmal coughing attack occurred one week after the accident, it lasted about twenty minutes, was very violent and was accompanied by the free expectoration of mucus. The next day there was another paroxysm not lasting quite so long.

Course of the Disease.—The history, physical signs and symptoms all pointed to a foreign body in the right main bronchus.

On March 21, the child was brought to Washington. He stood the trip fairly well, but was much exhausted and seemed very sick all day.

Dr. Charles W. Richardson saw him with me and confirmed my findings as to the physical signs and also concurred in the opinion that there was a foreign body in one of the bronchial tubes of the right lung.

The question of an immediate tracheotomy was seriously considered, but abandoned in favor of bronchoscopy, and an instrument was telegraphed for.

March 24: The small area of dullness was unchanged, a loud, cooing râle could be heard on expiration all over the right chest. The respiratory murmur was much weaker on the right, especially anteriorly, and in the axillary region. Behind, the breath sounds were more nearly alike on the two sides. There was no tubular breathing anywhere.

March 25: The boy had the fourth coughing paroxysm since the accident. It lasted several minutes and was accompanied by hemoptysis. He was thoroughly exhausted afterward and at once went to sleep. Numerous large râles appeared which could be heard all the evening.

March 26: At noon the child had a violent coughing paroxysm lasting twenty minutes. Blood was expectorated and he complained of pain over the upper chest. Exhaustion was marked. When seen three hours later, the breathing was rather stridulous and air seemed to enter both lungs about equally. The object had evidently shifted its position. He was pale and his condition was such that I called Dr. Richardson, but before his arrival, at 4 o'clock, the physical signs had again changed to those so often before noted. The foreign body had dropped back to its original position.

March 27: Râles were heard at the bases of both lungs posteriorly. Air entered the upper right lobe freely, while the breath sounds were scarcely audible over the two lober lobes. Over the fifth rib in the parasternal line there was a tubular sound to the breathing.

The bronchoscope having at last arrived, Dr. Richardson tried, under chloroform, to introduce the smallest tube (7 mm.) through the larynx. This proved to be impossible and the child's condition at that time did not justify a tracheotomy.

March 28: We were greatly encouraged by the condition. Air seemed to enter the right lung freely, and the dull area had apparently decreased somewhat. The foreign body had evidently shifted its position, and we hoped it might have been dislodged and coughed up.

March 31: The temperature, which had been nearly normal for six days, began to rise. Numerous râles appeared over both lungs.

April 3: Temperature was hectic. There was still an area of impaired resonance below the right scapula. Cooing râles were heard on both sides posteriorly. There was a tendency to sweat at night.

April 4: The temperature was 103; pulse, 120; respiration, 32. Dr. J. D. Thomas found only a suspicion of tubular breathing over the lower right axillary line.

April 10: The temperature had been ranging between 98 and 104. The cough was troublesome. There were large, cooing râles all over both lungs, but less air seemed to be entering the lower right lobe.

As there was no longer anything by which we could definitely locate the foreign body, we did not feel justified in attempting further operative interference. There seemed nothing to do but to wait and to hope for spontaneous expulsion. Some observations which I concluded shortly after this time also made me hope for ultimate recovery. I found that the ordinary entire cooked peanut kernel, when totally submerged for twenty-six days, crumbled on pressure in much the same way that a piece of bread would when thoroughly wet. The same was true, though to a lesser degree, of pieces of the kernel which were kept wet, but at the same time exposed to the air, while an unbroken half-kernel, under the latter conditions, was still quite firm at the end of the period.

April 15: There had been an improvement. The temperature, though still hectic, was not so high, and the boy had been able to go out to drive. The motion of walking, however, made his cough more troublesome.

Examination on this date showed less expansion on the right side and less air entering the upper and middle lobes until after coughing, when the sounds became more normal.

April 18: The following note was made: "There is no difference in the amount of air entering the two lungs. If the foreign body is still present it does not, to any extent, obstruct any important bronchus. A cooing râle can be heard on either side on deep breathing. There is no dullness. The cough is less frequent and he seems quite like himself."

April 21: Because I did not think that the *x*-ray would show a nut, I did not consider it wise to give him the extra exposure of a trip to a laboratory until this time.

X-Ray Examination.—The examination was made by Dr. Charles F. Stokes. The fluoroscope showed a distinct shadow just to the right of the sternum, which in a radiograph was found to be opposite the fourth and fifth ribs anteriorly. This shadow, I am convinced, indicated a small area of infiltration set up by the presence of the foreign body. The boy gradually improved, the temperature became normal May 20 and has since remained so, the cough disappeared, and at a subsequent fluoroscopic examination by Dr. Stokes, one month later, no shadow was seen. The peanut had disintegrated and had been coughed up, most likely in small pieces, and the inflammatory products had been absorbed.

Remarks.—The fact that the *corpus delicti* never actually came to light naturally raises the question as to the accuracy of the diagnosis. It is well known, however, that children seldom expectorate, and this child in particular never did, except on the several occasions noted above, when mucus and blood were propelled from his mouth by the violence of the expulsive efforts rather than of his own volition. Therefore, the peanut may have been coughed up and swallowed.

The facts that his illness dated from the time that he choked while eating peanuts, and that the symptoms and physical signs were absolutely characteristic of a foreign body in a bronchus, I think, fully justify the diagnosis.

1315 New Hampshire Avenue.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE .... CHICAGO, ILL.

Cable Address ... "Medic, Chicago"

Subscription price ..... Five dollars per annum in advance

SATURDAY, NOVEMBER 11, 1905.

OYSTERS AND TYPHOID FEVER.

Industrial developments are continually giving rise to new and previously unsuspected opportunities for infection, and the task of the modern sanitarian is plainly one calling for eternal vigilance. The rigorous exclusion of sewage from some public water supplies and the filtration of others has diminished measurably the danger of typhoid-fever infection from drinking water, but while these reforms have been vigorously urged, another source of typhoid fever has been steadily increasing in importance. Over 25,000,000 bushels of oysters, valued at about $12,500,000, were marketed in the United States in 1902. The location of oyster beds in sewage-polluted estuaries is evidently a matter for real concern. It is sufficient to recall the mode of feeding of the oyster and the large amount of water that may pass through its gills to realise the extent of the danger. Professor Brooks, the distinguished Johns Hopkins zoologist, has said: "I think it is hardly an exaggeration to say that every drop of water that enters the Chesapeake Bay from the Susquehanna River has a good chance to be filtered through the gills of an oyster before it reaches the ocean."

In some localities it is a common custom among oyster dealers to place oysters shortly before marketing in the brackish water of creeks or bays for the purpose of "fattening." This somewhat delusive process of "fattening" consists in the osmotic absorption of water by the oyster removed from the salt water to the less dense brackish or fresh water, and results in an increased bulk and a lighter color. Should the water in which the oyster is put to be bloated and bleached chance to be polluted with sewage, it is easy to see how infection may result. Unfortunately, the localities chosen by the oyster men for fattening are likely to be selected on grounds of convenience rather than safety.

The nature and scope of the oyster problem on the sanitary side is well set forth in a recent paper by Fuller,[1] who discusses broadly both the evidence derived from a study of epidemics and local conditions, and also the bacterial and experimental data. In the case of one well-known British health resort cited by this author, there is evidence that over 37 per cent. of the total cases of typhoid fever occurring in a period of eight years were due to the consumption of oysters and other polluted shellfish.

In Great Britain, various official bodies have taken up the subject with the zeal usually shown in that country in the prosecution of sanitary reforms. In certain respects the satisfactory regulation and control of the shellfish industries presents numerous difficulties, and the problem is a complicated one. The fourth report of the Royal Commission on Sewage Disposal recommends the establishment of a new central authority equipped to investigate all phases and standing in direct relation to the proper executive bodies.

Among the recent experimental researches on the oyster question may be mentioned the work of Klein,[2] who points out that the longer persistence of *B. typhosus* in oysters out of water makes such oysters far more dangerous than if they were kept in water. It is further stated that infected oysters cleanse themselves quickly if put into sea water, and the suggestion is made that oysters be placed in a vessel of clear sea water and the water changed about once a day for several consecutive days. The practical limitations of such a mode of procedure hardly need exposition. The writer asserts that another shellfish, the cockle, is more dangerous than the oyster, as "it appears to offer to the *B. typhosus* even facilities for increase." This latter observation is so out of line with previous experience regarding the behavior of the typhoid bacillus outside of the human body as to need confirmation.

It is unfortunate that the situation in the United States in regard to the oyster industry is not one in which a central control can be well exercised. Consumers of raw oysters at present are quite at the mercy of oyster dealers, presumably of varying degrees of intelligence and conscientiousness. There should be some means of preventing the distribution of sewage-saturated oysters in any part of the country. Is this not something that the Public Health and Marine-Hospital Service should take up?

THE PATENT MEDICINE CONSPIRACY AGAINST THE FREEDOM OF THE PRESS.

A flood of brilliant illumination has been thrown on the methods by which proposed public health legislation has been defeated, but coincidently a heavy shadow is cast over the boasted freedom of the American press. "The fighting of public health legislation is the primary object and chief activity, the *raison d'être*, of the Proprietary Association." "The younger Pierce stated explicitly the agency responsible for the defeat of this public health legislation: 'We must not forget to place the honor where due for our uniform success in defeating class legislation directed against our legitimate pursuits. The American Newspaper Publishers' Association has rendered us valuable aid, . . . and we can hardly overestimate the power brought to bear at Washington by individual newspapers.'" "They printed

1. Jour. of Franklin Institute, 1905.

2. Report to Worshipful Company of Fishmongers, London, 1905. THE JOURNAL, March 25, 1905, p. 907.

scores of bitterly partisan editorials against the public health bill and against its authors personally, . . . and even in the persons of editors and owners went up to the state house and lobbied personally against the bill." "And of this one hundred millions which the people of the United States pay for patent medicines yearly, fully forty millions goes to the newspapers."

Graphic and alarming as they are, the above extracts from the article, "The Patent Medicine Conspiracy Against the Freedom of the Press," in *Collier's Weekly* for November 4, give but an imperfect suggestion of the degradation laid bare therein. Even though he blush for the shackled press, whose owners and editors are shown to obey every order (and it is order, not request) of the Proprietary Association of America, every physician in the United States should read and preserve the article quoted from, and should place its evidence before the public. Aside from a few noteworthy exceptions, no agency of our time stands more in need of reform than does the press, and it is clear that pressure of public sentiment, aroused and fostered by physicians, is the only means by which this can be accomplished.

Fortunately, according to our thoroughly informed authority, "for the past the newspapers, in spite of these plain contracts of silence, must be acquitted of any very grave complicity. The very existence of the machine that uses and directs them has been a carefully guarded secret." In future, however, all will know why any paper opposes pure food and drug legislation. It must not be forgotten, either, that to a large number of newspapers this is a matter of life or death, for without the revenue from nostrum advertisements many of them must cease to exist. Full credit, too, is due to the newspapers of North Dakota, where alone there was flat disobedience to the orders of the Proprietary Association of America, and where, in consequence, a law was passed requiring nostrum labels to tell the true contents of the bottle or package. Since July 1 of this year nearly all nostrum advertisements have been withdrawn from the North Dakota papers, and the real struggle is proceeding.

The assertions and conclusions of the *Collier's* article are fully supported and confirmed by reproduced correspondence and proceedings and by photographed contracts and letters. The conclusions are indubitable. But let us beware of any pride of fancied superiority, at least until our own house is set in order. In the future, as in the past, evidence will be presented in these columns to demonstrate that the medical press is far from being free from similar control. Indeed, with few exceptions, the medical press is similarly subsidized by those proprietary manufacturers, who for the present confine their attention, actually or professedly, to the medical profession. Advertising contracts usually employed by the exploiters of certain proprietaries contain a clause requiring the editor, during the term of the contract, to publish free of additional charge one or more "original articles" concerning the products advertised. It is clear, then, that while we set out to initiate the reform of the lay press, it is essential that we rid ourselves of some of our own sins.

A NEGLECTED SOURCE OF TYPHOID BACILLI.

Many years ago Blackstein and Welch observed that after intravenous injection of typhoid bacilli in rabbits, bacilli may be recovered from the bile long after they have disappeared from the other organs. Since then we have learned that typhoid bacilli commonly find their way into the bile and the gall bladder in the course of typhoid fever, and that they may become the nuclei of biliary calculi and the cause of suppurative cholecystitis. In many instances, the bile has been found to be swarming with bacilli months and even years after the typhoidal attack.

While we have recognized the etiologic significance of their condition insofar as cholecystitis and cholelithiasis are concerned, it would seem that the hygienic significance of the gall bladder as a lurking place for bacilli has not been generally realized. It stands to reason that in a person so affected typhoid bacilli must pass into the intestinal contents and perchance be excreted in the stools. We have here, then, a hitherto somewhat unsuspected "bacillus carrier," which may become the source of sporadic as well as of epidemic typhoid.

The necessity of careful examination of the urine with regard to post-typhoidal bacilluria is more or less generally recognized, but hardly any stress has been laid on the possible hygienic dangers of the carriers of bacilli in their bile. We need careful observations as to the duration of the persistence of typhoid bacilli in the feces of typhoid convalescents, so as to learn more definitely the part played by bacillary bile invasion. When our knowledge in regard to this point is more complete than now, it may be possible to institute a more effective prophylaxis than the present, which is based almost wholly on general clinical experience rather than on comprehensive bacteriologic studies.

In the meantime, attention should be directed also to the problem of discovering some substance or method of destroying typhoid bacilli in the bile, just as the urine may be disinfected *in vivo* by means of hexamethylenamine (urotropin). At present surgical treatment of the gall bladder, which can not very well be extended to cases other than those showing indications of cholecystitis or cholelithiasis, offers the only chance for success.

It must be said that our present methods of prophylaxis against the spread of typhoid fever are somewhat lax so far as the typhoid patient as a source of dissemination of the cause of the disease is concerned. Cases of smallpox, measles, scarlet fever and diphtheria are, as a rule, isolated with great care until there is good reason to conclude that the patient no longer harbors the cause of the disease. Patients who have had typhoid fever, however, are permitted often to go abroad before it is

known whether or not the bacilli have been completely eliminated from the urine and the feces. At all events, there is still much to be desired in this respect so far as typhoid is concerned.

Concerning the route by which bacilli reach the bile in typhoid fever, there seems to be little question but that it is by way of the blood stream. The bacilli occur in the blood even in mild diseases, and recently Doerr[1] in repeating the experiments of Blackstein and Welch, showed that in rabbits bacilli pass into the bile only after intravenous injection, and then by way of the cystic duct, i. e., through the liver. Organisms appeared in the bile in a few hours after injection, and Doerr noted their presence there for 120 days later. Injections of colon and paratyphoid bacilli gave results similar to those obtained with typhoid bacilli.

1. Centralbl. f. Bakt., 1905, 39, p. 624.

THERAPEUTIC DECADENCE IN BRITAIN.

The *descensus Averni* of therapeutics is not a purely American phenomenon. In Germany and Austria pathology has made such splendid strides and has attracted so much attention that it has monopolized interest to an extent that has entailed neglect of therapeutics. The same tendency has played a minor part in this country, and to that extent has emphasized the opportunity of the drug makers and nostrum makers to become our preceptors in therapeutics.

In England the profession suffers nearly as much as we do, and largely from the same source. International comity has progressed at least far enough for us fully to sympathize with the plaint which appears in the *British Medical Journal* for Oct. 21, 1905. Our contemporary, in its editorial caption, asks: "Shall we take our therapeutics from the druggist?" Its text is a circular from an American drug firm, which instructs physicians in the several physiologic actions of the common alimentary stimulants and laxatives, all the allegations of this purgative primer being offered as an introduction to the surpassing virtues of certain "lapactic pills." In the closing paragraphs our contemporary speaks as if describing conditions in America. "We know it is said that there are practitioners who are content to take their therapeutics from advertisements which reach them through the post, and that in spite of the numerous protests we receive against the plague of druggists' circulars, especially from across the Atlantic, our waste-paper baskets overflow with them, so that it seems possible that they fulfill their immediate object, which is the sale of the articles recommended. Probably the greatest hindrance to the healthy development of rational therapeutics, not only in the profession as a whole, but in each individual member, is the influence of advertising by which particular remedies are puffed into notoriety altogether out of proportion to their merits, and the quiet voice of criticism is drowned by the brazen trumpet of the nostrum vendor."

Herein lies the secret of our decadence. The distinctions between "proprietary" and "patent" drugs are not discernible to uninterested students of the situation. The physician, like the layman, uses many a remedy because someone "says it is good" for such and such conditions. This we do even when utterly ignorant concerning the composition of the medicament and concerning the physician who writes the testimonial. Of course, in such an atmosphere rational therapeutics finds no place. The manufacturer has done much to improve the appearance and the taste of the materia medica, and has contributed something to knowledge and to exactness of dose, but along with these good things has come the assumption on his part that he is the therapeutic instructor of the profession. Having assumed this position in many instances he has led us from good old remedies in attractive form to new agents of unguessable composition, which he tells us are good, and for which he persuades us to write testimonials.

Of course, we are to blame, and we must assume the responsibility. The manufacturer should not be too severely criticised so long as we enter no protest, swallow all that the advertising literature contains and prescribe any and every kind of nostrum without even enquiring whether it is the product of a reliable manufacturing pharmacist, or of some fake and anonymous chemical company. So long as we are contented, why should they worry who are making fortunes out of our credulity?

A NEWSPAPER FREE FROM NOSTRUM ADS.

"Thou hast a few names, even in Sardis,
That have not defiled their garments."

In *Collier's Weekly*, October 28, besides the illuminating article by Samuel Hopkins Adams, entitled "Peruna and the Bracers," excerpts from which we have already quoted,[1] a collection of letters is published, received by the management from various sources, and inspired by the first of Mr. Adams' articles. Lack of space forbids the reproduction of all these letters, interesting as they are, but one in particular deserves attention:

ONE RESULT OF COLLIER'S CAMPAIGN.

"THE MARINE TELEGRAM,
"MARINE, ILLINOIS, Oct. 9, 1905.

"EDITOR *Collier's Weekly:*

"*Dear Sir*—The inclosed circular speaks for itself. Have been reading your articles against the patent medicine fraud, and heartily indorse the sentiment expressed. The *Telegram* has a circulation of only 500 copies per week, but the patent medicine fake can not buy space in the paper. Two years ago I canceled the last contract and am not renewing any. I am standing alone—all my exchanges are full of the 'gullible stuff,' but when such papers as yours approve and enter the fight there'll be 'something doing.' Did not intend to take up your time, but on second thought concluded to send you the circular to show you that your work is being felt. They are turning their attention even to such little fellows as we are. Keep after them, brother—they are hard hit and can't run very fast. Respectfully, L. C. HEIM, *Editor Telegram.*"

1. See Pharmacology, November 4, p. 1422.

The circular to which reference is made is as follows:

"THE PRESS COMMITTEE OF THE PROPRIETARY ASSOCIATION,
184 La Salle Street, Room 1205, Chicago, Illinois.

"*To the Publisher:*

"We are inclosing copy of a communication which recently appeared in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. It outlines the attack that is to be made on Proprietary Medicines.

"Believing you are interested in this matter, we also inclose for your information printed memoranda on the subject, which we hope you will read and preserve for reference.

"We should be pleased to hear from you at any time, and should you desire we can furnish you with interesting copy which briefly states the facts about patent medicines.

"The success of this agitation means the destruction of the Proprietary Medicine business, which is the system of medication now used with benefit by the great majority of the people.

Yours very truly, THE PRESS COMMITTEE,
"A. H. BEARDSLEY, Chairman."

It is gratifying to know that an editor of a newspaper places honesty above advertising receipts and conscience above circulation. The Marine (Ill.) *Telegram* has a circulation of only five hundred copies per week, and is not afraid to say so, yet it may well be an example in business decency to the newspapers of the country, most of whose managing editors advocate strenuously, even vociferously, personal and civic decency on their editorial pages, yet admit, and even solicit, advertisements of palm readers, fortune tellers, abortionists, abortifacients, nostrum vendors and humbugs. But these journals are doubtless in the same position as one of our contemporaries, who said that "the editorial and advertising pages are entirely distinct."

INSURANCE AGAINST SEPSIS.

Physicians, as a rule, carry policies of accident insurance which include a clause indemnifying them for loss of time in case of septic infection arising in the course of professional duty. It is doubtful whether, when buying such a contract, physicians are as careful as they should be to determine just what hazard is covered by the "septic poisoning clause." An item in *The Spectator* (insurance), for Oct. 26, 1905, indicates that neglect of this precaution may lead to later disappointment. It seems that these clauses, so important to surgeons, physicians and dentists are variously worded, so that the amount of protection varies. Some of them provide that, to render the company liable, the production of the wound and the entrance of the poison must be simultaneous. This debars a claim for indemnity in case the infection occurred in a pre-existing abrasion, wound or hangnail. It is said that in one company's experience 90 per cent. of the claims under its septic poisoning clause have arisen from causes other than wounds suffered in operations. It is very evident that every physician who buys an accident policy with a septic poisoning clause should read the latter very carefully so as to be sure in advance just to what extent he is protected.

ALLEGED WHOLESALE POISONING.

One of the leading New York newspapers publishes the astonishing statement in its New Orleans correspondence that during the recent yellow-fever epidemic 3,000,000,000 of 1/100 gr. arsenic tablets were consumed in that city and vicinity as the result of the allegation of a Minnesota physician that arsenic is a preventive of yellow fever. The correspondent goes on to figure out the weight and bulk of these tablets; that they amounted to 26 tons and would fill a space of 7,000 cubic feet. The correspondent estimates that the people in and about New Orleans spent an aggregate of 2,083,409 days swallowing tablets, allowing one minute a dose. All this is soberly set down in the *New York World*, and was paid for at newspaper telegraph rates. The reader who is interested can figure out further absurdities at his leisure.

INCONSISTENCY OF THE BRITISH MEDICAL JOURNAL.

Elsewhere we have quoted the views of the *British Medical Journal* in regard to "the plague of circulars," and the usurpation of therapeutic teaching by the makers of drugs. It is not a little astonishing, however, to find in the advertising pages of the same issue of that publication the advertisement of the firm and the identical article whose circular drew forth the eloquent comment of our contemporary. Further investigation of its advertising pages suggests that the British Medical Association's journal is not ready to join in the movement to suppress the present evil features of the proprietary trade. In its advertising pages appear advertisements of several products that we are sure would not bear critical investigation. While objecting to the flood of circulars from American pharmacists, our contemporary clearly has no evident objection to the influence of American cash in payment for the advertising of American proprietary remedies, some of which also are widely advertised in the lay press. The present movement, however, is somewhat new, and, as in our own case, existing contracts may have to be carried out, so that our contemporary yet has time to assume a more correct position, which we have no doubt it soon will do.

Laffont's Tuberculin-Serum Treatment of Tuberculosis.—M. Laffont has been studying for eight years to produce a serum effective against tuberculosis, and he believes that the results he has recently obtained deserve attention. He described them before the recent international tuberculosis congress, and his report is published in the *Progrès Médical* for October 7. He combines a tuberculin produced by a new technic with an artificial tonic serum. The latter aims to invigorate the phagocytes, favor their proliferation and to increase the natural defenses of the organism. It contains in each cubic centimeter 0.5 mg. of dimethoxylated strychnin. This affects the nerve centers like strychnin without the great toxicity of the latter. He found that animals injected with this serum, after inoculation with tuberculosis, survived much longer than the controls. It gave even better results in the clinic in his experience with 134 patients. He combines this hypertonic serum with a tuberculin made according to a new principle. He reasons that the vital organs of a tuberculized animal must contain not only the microbes and their toxins, but also the products of its defensive reaction. These defensive products are encountered only in the living animal—not in bouillon cultures of the bacilli. He thus uses living animals for his culture medium, first inoculating them with tuberculosis, then invigorating them by a course of treatment with his hypertonic serum, and then killing them and using an extract of their glands and tissues for his tuberculin.

Medical News

CALIFORNIA.

Mulctal for Mailing Obscene Literature.—Dr. Lawrence L. Sherrod, San Francisco, was fined $200 by United States District Judge De Haven October 25 for sending obscene pamphlets through the mails. He paid the fine and was discharged.

Personal.—Dr. Charles F. Millar has been confirmed chief surgeon of the Central Emergency Hospital, San Francisco. ——Dr. Hayden M. Simmons, San Francisco, has been appointed a medical inspector of schools.——Dr. George W. Mallory, Santa Rosa, has taken a trip to New York.

COLORADO.

Personal.—Dr. and Mrs. Alfred B. Blackman, Colorado Springs, have returned from Europe.——Dr. Byron C. Leavitt, Denver, is visiting in Saco, Maine.

Pardoned.—The state board of pardons has recommended that pardon be granted Dr. Potts, Buffalo, who is serving a sentence of twenty years in the penitentiary for murder in the second degree.

Medical Board Resigns.—The entire medical board of Agnes Memorial Sanatorium, Denver, consisting of Drs. Arnold Stedman, William H. Bergtold, Carroll E. Edson, John A. Wilder and Lorenzo B. Lockard, has resigned. The members state as their reason that they do not approve of the present policy of the institution.

Warning Against Liquor Prescribing.—The city attorney of Colorado Springs issues a warning to physicians who give prescriptions for liquor. The ordinance provides that a prescription for liquor may be given by a physician only in the regular practice of his profession. It is not within the law for a physician to give, without examination and without a fee, a prescription to any person who simply wants liquor. The fine for violation of this section of the ordinance is from $100 to $300.

Vital Statistics.—During September 819 deaths were reported in the state, equivalent to an annual death rate of 17.8 per 1,000. Typhoid fever caused 41 deaths, diphtheria 4, and scarlet fever 3. During the month there were 334 cases of typhoid fever reported, 29 of scarlet fever, 23 of diphtheria and 14 of smallpox. As compared with the previous month, September shows a decrease of one case of diphtheria, 4 cases of scarlet fever and 17 cases of smallpox, and an increase of 86 cases of typhoid fever.

ILLINOIS.

Cornerstone Laid.—The cornerstone of the Taylorville Hospital was laid with appropriate ceremonies November 8. Bishop Ryan of Alton assisted in the ceremony. The building fund, so far, amounts to within $150 of the $10,000 required.

Personal.—Dr. Martin W. Cushing, Joliet, had another severe attack of heart disease October 30.——Dr. Frank P. Norbury, Jacksonville, has been elected vice-president of the Illinois Conference of Charities.——Dr. Alfonso C. Czibulka, Warren, has returned from an extended stay in Bridgeport, Conn.

District Society Election.—The Western Medical Society met at Alton October 27 in annual session, with an attendance of about forty. The following officers were re-elected: Dr. Henry W. Chapman, White Hall, president; Drs. Luther J. Harvey, Griggsville, and David W. Reid, Jacksonville, vice-presidents; Dr. Albyn L. Adams, Jacksonville, secretary and treasurer, and Drs. Thomas J. Pitner, Jacksonville; Levin H. A. Nickerson, Quincy, and Waldo Fisher, Alton, censors.

Aesculapian Election.—At the fifty-ninth annual session of the Æsculapian Medical Society of the Wabash Valley, held in Paris, October 26, the following officers were elected: Dr. Alsephus T. Robertson, Ashmore, president; Dr. C. E. Price, Robinson, vice-president; Dr. Harry McKennan, Paris, secretary and treasurer, and Drs. Henry E. Cushing, Champaign; Spencer M. Rice, Terre Haute, Ind.; Zachary T. Baum, Paris; Theodore N. Rafferty, Robinson, and Elmer B. Coolley, Danville, censors. Robinson was selected as the next place of meeting.

More Asylum Changes.—Dr. Ira O. Paul, Winnebago, who was appointed interne at the Northern Illinois Hospital for the Insane, Elgin, has declined the appointment. Dr. Edward A. Foley has resigned as first assistant physician of this institution.——Dr. Edward F. Leonard, Chicago, has been appointed physician to the Illinois Central Hospital for the Insane, Jacksonville, vice Dr. Louis H. Clampit, Jacksonville. Dr. Harry C. Hardt, Hospital, has succeeded Dr. Elmer L. Crouch, Mount Vernon, as assistant physician of this institution.——At the Hospital for the Incurable Insane, Bartonville, Dr. Arthur K. Stangland, Chicago, has been appointed senior assistant physician, vice Dr. A. T. Burnham.

Diphtheria.—Dr. Guy L. Armstrong, secretary of the Taylorville Board of Health, writes that there has existed in Taylorville, Christian County, for several weeks a mild epidemic of diphtheria, probably 100 or more cases, about 25 of which are now under quarantine. Being mild and thus far with no fatalities, the epidemic is being given too little consideration generally, many doubting the diagnosis, although it has been demonstrated in all but one instance in which cultures have been made. Until the last few days it has been confined chiefly to one community and the children attending one school—which has been closed for some time. On account of the development recently of several cases in different parts of the city in children attending the various school, all the ward schools and the public library have been ordered closed.—— The Humphrey school house, near Barrington, has been closed on account of diphtheria.——Richwoods township is suffering from an epidemic of diphtheria which may necessitate the closing of the public school.

Chicago.

Hospital Buys Land.—The Chicago Union Hospital has purchased the northwest corner of Wellington Avenue and Dayton Street, 90x264 feet, for $23,000.

Optimistic in Face of Difficulties.—Dr. Sarah Hackett Stevenson, who was stricken with cerebral hemorrhage two years ago, has sent greetings to her friends and expressions of gratitude that she still survives on the second anniversary of her affliction.

Coroner's Report.—During October the coroner investigated 285 deaths, of which 52 were found to be due to natural causes; suicide claimed 35 and homicide 17. Of the suicides 16 died by shooting, 3 by hanging and 7 by poisoning. Of the latter 4 employed carbolic acid.

Mortality for October.—During October 2,153 deaths occurred, 51 more than during the previous month, and 256 more than for the corresponding month of last year. The annual death rate was 12.73 per 1,000. Acute intestinal diseases caused 257 deaths; consumption, 242; pneumonia, 217; violence, including suicide, 205; heart diseases, 185; Bright's disease, 163, and cancer, 116.

Contagious Diseases.—During October three cases of smallpox were found in Chicago, and these all in one family.—— There were reported 438 cases of diphtheria during October, and 50 deaths from this disease. During the week ended November 4, 120 cases were reported, with 16 deaths, and during the previous week 113 cases, with 16 deaths. The disease is distributed about equally in the various portions of the city.

Deaths of the Week.—For the week ended November 4 the deaths from all causes numbered 496, 28 more than for the preceding week, and 78 more than for the corresponding week of 1904. Pneumonia heads the death list with 77, followed by violence, including suicide, with 49, heart disease with 46, Bright's disease with 41, consumption with 40, intestinal disease with 32, nervous diseases with 21, and apoplexy with 20 deaths.

The Senn Dinner.—The following is the program of exercises for the Senn banquet: Presentation of medallion, Dr. Joseph D. Bryant, New York City; presentation of loving-cup on behalf of Dr. Senn's former students, Dr. Lewis G. Nolte, Milwaukee; response by Dr. Senn; "American Surgery," Dr. William J. Mayo, Rochester, Minn.; "The American Medical Association," Dr. Lewis S. McMurtry, Louisville; "The Medical Man as the Patient Sees Him," Hon. George R. Peck, Chicago; "The Medical Man versus the Surgeon," Dr. John A. Witherspoon, Nashville, Tenn.; "American Medical Literature," Dr. Charles A. L. Reed, Cincinnati; short reminiscences, anecdotes, etc., by Drs. Jacob Lang, Milwaukee; Edward Boeckmann, St. Paul; Fernand Henrotin, Daniel R. Brower, William E. Quine and others. Guests will assemble at the Fine Arts entrance to the Auditorium at 6:30 p. m., November 11.

INDIANA.

Fire Loss.—A fire in the library of the home of Dr. Benjamin F. Bye, Indianapolis, although of short duration, caused a loss of $2,500.

Fever Epidemic.—An epidemic of typhoid fever is raging at Mount Ayr; 35 cases have been reported, with 3 deaths.——It

is reported that at Monticello there have been 10 deaths out of 15 cases.

Physician's Murderer Sentenced.—Alexander Kennedy, Lafayette, who shot and killed Dr. Philip J. Tresch, June 17, pleaded guilty to voluntary manslaughter October 26, and was given an indeterminate sentence in the state prison.

Clinical Society Formed.—The staff of the Deaconess Hospital, Evansville, has organized a medical society, to be known as the Deaconess Hospital Clinical Society. Dr. Charles Knapp was elected president and Dr. Charles B. Harpole, secretary.

District Society Meeting.—At the semi-annual meeting of the Thirteenth District Medical Society, held at Elkhart, October 19, 70 were present. Dr. William G. Wegner, South Bend, was elected president, and Dr. John C. Fleming, Elkhart, secretary and treasurer. The next meeting will be held in South Bend.

Cornerstone Laid.—The cornerstone of the main building of the Methodist Hospital, Indianapolis, was laid October 25. The chief address was made by the Hon. Charles W. Fairbanks, vice-president of the United States. United States Senator Albert J. Beveridge also delivered an address. The hospital is expected to cost $300,000.

Personal.—Dr. Frederick Herring, Goshen, observed his ninety-third birthday anniversary October 30.——Dr. Charles T. Bronaugh, New Ross, has returned from a trip to the Pacific Coast.——Dr. R. S. Byers, Trafalgar, was injured by a kick from a horse, October 29.——Dr. John M. Pulliam has resigned his position at the Logansport Asylum, Long Cliff, and will go into practice at Fort Wayne.——Dr. Austin Funk, New Albany, has gone to London.——Dr. James A. Comstock, Greenfield, went to Indianapolis October 24 to have an operation performed for disease of the bladder.——Dr. Clarence Kelsay, Evansville, has been appointed milk and food inspector by the board of health.——Dr. John B. Salb, Jasper, has been appointed division surgeon for the Southern Railway.

MARYLAND.

Left Large Estate.—The late Dr. George Johnson, Frederick, left an estate valued at $100,000.

Asylum Overcrowded.—The Maryland Asylum and Training School for the Feeble-minded is much crowded, there being now 200 inmates, with 170 applications for admission. The visitors will apply to the legislature for appropriation for additional buildings.

Delegates Appointed.—The governor has appointed the following as delegates to the southern conference on immigration and quarantine at Chattanooga, Tenn., November 9 and 10: Dr. John S. Fulton, secretary of the State Board of Health, and Dr. James Bosley, health commissioner of Baltimore.

Baltimore.

Births and Deaths.—The health report for October gives 822 deaths and 810 births.

Hospital Opened.—The new Franklin Square Hospital will be opened about December 1, with an address by the governor.

Plans for Hospital.—The architects have been selected to submit a general plan for the five buildings for the Hospital for Infectious Diseases. The site, in the eastern suburbs near the city almshouse, comprises about twenty acres. One building will be erected annually, the first being for diphtheria and scarlet fever.

Johns Hopkins Students.—At the Johns Hopkins Medical School there are 293 regular students. The smallest class is the first year, which numbers 58, including 7 women—the largest number of women there in any year. During the session a laboratory will be opened for instruction in operative surgery on animals.

Presentation to Hemmeter.—On November 15, the twentieth anniversary of his doctorate, an oil portrait of himself will be presented to Dr. John C. Hemmeter by his friends. There are ninety-five subscribers. Supervising Surgeon-General Walter Wyman of the United States Public Health and Marine-Hospital Service will make the presentation, and an address will be made by Dr. Warner Holt, Washington.

MASSACHUSETTS.

Unusual.—The Women's Charity Club Hospital, Roxbury, has received a bequest of $500 under the will of Edith G. Willard, Boston.

Illegal Practitioner Fined.—Hannah Porn, Gardner, was fined $100 in the Superior Court, Worcester, October 27, for the illegal practice of medicine.

Another Gift for Lowell Hospital.—Frederick F. Ayer has made another donation of $25,000 to the Lowell General Hospital, to be expended in improvements in accordance with the plan proposed.

Surgical Pavilion Opened.—The Douglass Surgical Pavilion, the gift of the governor to the hospital in his home city, Brockton, was dedicated October 31 with appropriate exercises. At the same time the Wellcome H. Wales memorial ward was dedicated.

Somerville's Donation Day.—Somerville Hospital benefited by its donation day by cash contributions of nearly $2,500 and quantities of clothing, food, linen and medicines. Much of the money was obtained by forming groups of five, each individual paying $50, and the whole sum, $250, being the amount needed to maintain a bed for a year.

Woman's Hospital Report.—The Free Hospital for Women, Brookline, reports that 308 patients were operated on during the past year, an increase of 20 over 1904. Dr. John Phillips Reynolds has resigned from the staff after a service of twenty-nine years. Although there are 42 beds available, only 30 can be used with the present limited nursing force.

Personal.—Governor Douglass has appointed Dr. Clarence F. Curley of Provincetown, medical examiner for the Third Barnstable district.——Dr. L. W. Starbird has resigned as surgeon of the Soldiers' Home.——Dr. Frederick Bogan, Boston, has been appointed assistant surgeon, with the rank of second lieutenant, N. V. M., and has been assigned to duty with the Ninth Infantry.

Good Work of Floating Hospital.—The Boston Floating Hospital reports that during its ten weeks' season, from July 6 to September 13, 279 patients were treated in the permanent wards. Of these 92 were discharged well, 73 improved, 23 not improved, and 91 died. The average stay of the patients was 13.76 days, a total service of 3,840 days. In the open ward 620 patients were treated, 50 trips were made down the harbor with these and on the average 47 were taken on each trip. Of these patients 35 were pronounced well, 366 improved, 216 unimproved (failed to come often enough to be benefited), 2 refused treatment, and 1 died. In the wards 140 were 6 months old or less, 65 from 6 to 12 months, 52 from 1 to 2 years, 13 from 2 to 3 years, 6 from 3 to 5 years, and 3 from 5 to 6 years. Among the day patients, including 66 transferred to the wards, 210 were under 6 months old, 227 from 6 to 12 months, and 249 over 1 year. The severity of the ward cases is marked by the fact that 26 died within 48 hours of admission.

MICHIGAN.

Detention Hospital Burned.—The Sheridan House, Jackson, which has been used as a detention hospital, burned October 20.

Diphtheria.—Mason County is at present suffering from a severe epidemic of diphtheria. Five deaths occurred during the last week in October and eight schools in the county have been closed.

Self-styled Physician Imprisoned.—"Dr." Francis Murry, Detroit, who has been annoying women in apartment houses, was found guilty October 13 and sentenced to the house of correction for ninety days.

Work on Hospital Begun.—Construction work has been started on the Hubbard Memorial Hospital at Bad Axe, which F. W. Hubbard is building and will present on completion as a tribute to his father, the late Langdon Hubbard.

Sanitarium to be Hotel.—The Alma Sanitarium has been leased for a term of years by Edward C. Mix, Missoula, Mont., and will be conducted as a health resort, open all the year around. The name of the institution has been changed to the Alma Springs Hotel.

Medical Cases Dropped.—The cases against "Drs." George W. King and Edward H. French, Grand Rapids, who were charged by Dr. Beverly D. Harison, secretary of the State Board of Examiners in Medicine, with having failed to take out certificates, have been dropped. King has left the city and French has promised not to practice medicine for a time.

Personal.—Dr. Robert H. Nelson, Hudson, has gone to Ann Arbor for operation.——Drs. Michael P. Fenelon and William A. Cotton, Escanaba, and Dr. Richard S. Forsyth, have been appointed physicians for the Delta County Hospital, Escanaba, for three years.——Dr. William J. Robinson, who was appointed city physician of Lapeer October 24, resigned October 25.——Dr. Charles W. Edmunds, Ann Arbor, has returned from Europe.——Dr. Clark R. Wilcoxson has been appointed health officer of Ypsilanti, vice Dr. Frank K. Owen, deceased.——Dr. Charles W. Yarrington, Centennial, has been appointed to the

Calumet & Hecla medical staff, vice Dr. William K. West, Calumet, resigned.——Dr. Martha C. Strong, Jackson, has returned from Europe.

MINNESOTA.

Hospital Association Incorporation.—The Lutheran Hospital Association of Minneapolis filed articles of incorporation with the secretary of state October 21.

Hospital to be Enlarged.—The Norwegian Lutheran synod will enlarge Luther Hospital, St. Paul, which has outgrown its present quarters, by the erection of a new building to accommodate 300 patients and to cost more than $100,000.

Personal.—Dr. William C. Voigt, Stillwater, was stricken with paralysis October 27.——Dr. Charles A. Lester, Wabasha, has been appointed local surgeon for the Milwaukee System, vice Dr. William F. Milligan, deceased.

Hospital Damages Settled.—The insurance appraisers have settled the damages sustained by the fire at St. Raphael's Hospital, St. Cloud, October 10, for $19,388.55. The hospital will be rebuilt and will be finished before spring.

Jury Disagrees.—After twenty-four hours' deliberation the jury in the case of Dr. Theron H. Bly, Minneapolis, indicted on the charge of performing a fatal criminal operation on Hilda Rosen, was allowed to disagree October 25, and was dismissed.

Chiropractic Wins Suit.—In the damage suit of A. J. Lindquist against D. W. Reisland, a chiropractic of Duluth, a verdict was given for the defendant, the judge ruling that chiropractic is a separate school and that the testimony of regular physicians against it is not admissible as evidence.

Red River Association Meets.—The Red River Valley Association met October 25 at Crookston and elected the following officers: President, Dr. Malcom McKinnon, Fosston; vice-president, Dr. Jacob S. Kjelland, Crookston; secretary, Dr. Theodore Bratrud, Warren; censor, Dr. Hodgson, Crookston; and delegate to the Minnesota State Medical Society, Dr. George S. Wattam, Warren, and Dr. Halvor Holte, Crookston, alternate. The association recommended that Dr. Malcom McKinnon, Fosston, be reappointed a member of the State Board of Health and that Dr. Theodore Bratrud, Warren, be selected as a member of the State Board of Medical Examiners.

Dispensing Physicians Must Pay Liquor Tax.—The deputy collector of internal revenue for the Minneapolis district announces that under a ruling handed down by the Treasury Department, he will have to collect a liquor dealer's tax from every physician who compounds his own prescriptions, or who uses alcohol or alcoholic liquors in so doing. The ruling expressly states that the tax must be collected from all physicians who keep a supply for their patients of "malt tonic," whisky, port wine, blackberry brandy and similar compounds, or use the same in compounding their medicines. The fact that liquors are furnished for medicinal purposes only makes no difference as to the tax.

KANSAS.

An Appeal to Kansas Physicians.—A prominent physician of America writes us that he believes that "the profession of this country is being frightfully humbugged by the secret proprietary manufacturers, much more so than are the people by the 'patent' medicine men; and the journals of the state societies must fall in line, even though they lose part of their advertising income. One of the most important things for the profession to learn is that if it does not support the medical journals, the nostrum men stand ready to do so." Are you ready to have the advertisements of proprietary medicines cut ont of this jounal to the extent, say of $500? Or, don't you care a "continental" about the whole business? One of our councilors told us the other day that our men were not yet ready to put their hands into their pockets to support a journal without patent medicine advertisements. Is this true? Are the men of Kansas so blasé, so "blunted by the long disregard of the prohibitory law," so dull of moral fiber, that the question does not appeal at all to them?—*Journal of the Kansas Medical Society.* ["What shall the answer be"? We presume that all proprietaries are not to be eliminated, but only those which do not come up to a certain standard.—EDITOR.]

NEW YORK.

Consider New York City Water Plans.—The state water supply commission considered a petition and plans for taking water from the Catskills to supply New York City on November 3. The localities affected by these plans will be given a hearing within the next three weeks.

Hospital Gift Fair.—The German Hospital gift fair, which has just closed, was one of the greatest successes of its kind in the history of Buffalo. It is expected that more than $50,000 will be realized for the hospital, and with this amount many needed improvements, including a wing for private rooms and a nurses' cottage, will be made.

New York City.

Ambulance Wrecked.—An ambulance from the J. Hood Wright Hospital was wrecked recently. Both the ambulance surgeon and the driver escaped serious injury.

Fewer Milk Dealers on Trial.—There were only four milk dealers found guilty of selling adulterated milk by the Court of Special Sessions last week. These were fined sums varying from $10 to $30.

Quarantine Lightened.—Dr. Doty has suspended the regulation requiring vessels from southern domestic ports to stop at quarantine station for examination, except in the case of vessels from New Orleans. These will be required to stop until that city is officially declared free from yellow fever.

Cornerstone of Hospital Laid.—The cornerstone of the new Manhattan Eye, Ear and Throat Hospital was laid November 2 by John T. Agnew, a brother of the founder of the original institution. The new building will have a frontage of 125 feet and will be nine stories high. It will be ready for occupancy in about a year.

Hospital Staff.—The Philanthropic Hospital, which was recently dedicated, will have as its staff Drs. Heinrich Stern, Dexter D. Ashley, William S. Bryant, Ernesto Biasucci, George A. Crump, Julius R. Fabricius, David Flynn, D. Fredman, Victor A. Lyon, George B. McAuliffe, J. Smith Peterson, Edward C. Podvin, Thomas F. Reilly and Simon Strauss.

Contagious Diseases.—There were reported to the sanitary bureau of this city for the week ended October 28, 342 cases of tuberculosis, with 157 deaths; 282 cases of diphtheria, with 17 deaths; 94 cases of typhoid fever, with 19 deaths; 113 cases of measles, with 2 deaths; 61 cases of scarlet fever, with 4 deaths; 2 cases of cerebrospinal meningitis, with 5 deaths, and 85 cases of varicella.

New Wing for Hospital.—The new wing of St. Vincent's Hospital was formally opened November 2 by Archbishop Farley. This wing is supplied with a full equipment to accommodate 100 patients. Among the donors of funds for rooms in the new wing are John D. Crimmins, Adrian Iselin, Dr. Frederic S. Dennis, Jeremiah Campion, Mrs. James Butler and Mrs. John W. Mackay.

Give Money for Sanatorium.—The following contributions are reported for building a sanatorium for Hebrew children at Rockaway Park: Jacob Schiff, $10,000; Mortimer L. Schiff, $2,500; Adolph Lewisohn, $2,500; Felix M. Warburg, $1,000; Otto H. Kahn, $1,000; Paul M. Warburg, $500; Emanuel Lehman, $500; Daniel Guggenheim, $500; William Schole, $500, and Isaac Stern, $500. The furniture for the new building will be provided by Mrs. J. B. Greenhut.

Brooklyn's Water Supply.—Dr. Lederle has been at work investigating the condition of the water supply of this borough and expresses the opinion that the underground supply is pure and wholesome. The coli bacteria count was low and no intestinal bacilli were found. He thinks the epidemic of typhoid fever was not due to the water. However, about 45 per cent. of the water supply comes from the surface supply and this portion of the supply is menaced by pollution.

Inspect Cabin Passengers Also.—Commissioner of Immigration Watchorn has issued orders to the inspectors of the United States Public Health and Marine-Hospital Service to make thorough examination of all first-class passengers on incoming vessels. This order was prompted by the case of a man who came in the first cabin while his wife and children came in the steerage. It was discovered that this man, though diseased, managed to pass the casual examination accorded the first cabin passengers.

OHIO.

New Hospital Opened.—The new hospital at Wauseon was opened November 1.

Health Board Abolished.—The city council of Marysville abolished the board of health October 26 in order to settle the controversy between the board and the dairymen.

Contagious Wards Opened.—The new contagious hospital connected with the Toledo Hospital was formally transferred to that institution October 25. The building has two wards and is thoroughly equipped.

Physician Exonerated.—The suit of Frank Stroup against Dr. William J. Ritchie, Warren, in which damages of $10,000 were claimed for alleged negligence while attending the wife of the plaintiff, was decided in favor of the defendant October 19.

Diphtheria.—The epidemic of diphtheria at Leetonia is now believed to be under control; there has been only one death from the disease and one new case reported in the last week. ——Owing to an epidemic of diphtheria in district No. 11, the Storm's Station public school has been closed.——Diphtheria has broken out among the foreign population of Marblehead and the public schools have been closed.

Personal.—Dr. D. Clark Hoffman, chief surgeon of the Soldiers' Home, Dayton, has resigned, to take effect November 1, and Dr. Frank W. Roush has been appointed his successor.——Dr. John W. Murphy, Cincinnati, is seriously ill with what is believed to be an abscess of the frontal sinus.——Dr. George F. Brubaker, Springfield, has returned from a trip to the Pacific Coast.——Dr. William S. Bushnell and family, Mansfield, have gone to California for the winter.——Dr. D. R. Bookwalter, Dayton, is critically ill from tuberculosis.——Dr. George T. Harding, who has been on the staff of the Columbus State Hospital for four years, has resigned, to take effect November 15, in order to assume charge of the new National Sanatorium soon to be opened in Tacoma Park, near Washington, D. C.——Dr. Stanley R. Hutchings, Springfield, has been elected physician of the Children's Home, vice Dr. Walter N. Prince, resigned.——Dr. Sample R. McKerrihan, Portsmouth, was severely injured in a runaway accident October 26. ——Dr. Walter N. Prince, Springfield, has located in Red Lodge, Mont.——Dr. John J. Murphy, Lima, suffered painful injuries in a collision between his buggy and a street car October 24.

Pure Water for Cincinnati.—It has been finally decided that a solution of lime and sulphate of iron be used in connection with the new filtering beds of the water works for purifying the water, and not alum. The method of purification will be as follows: From the Ohio River the water will be introduced into two large settling reservoirs and allowed to remain there for from one to three days, according to its condition. It is then drawn off from the top of the reservoirs and passed through a regulating house, where the coagulant is to be introduced in solution. Thence it flows into three coagulating basins and allowed from one to six hours to pass through the basins. Next it is passed through the filters. These latter are 28 in number, each 28 by 50 feet, each acre of which is capable of filtering from 100,000,000 to 140,000,000 gallons in twenty-four hours, as against 2,500,000 to 3,000,000 gallons in twenty-four hours by the slow sand filtration with no coagulant as is used in Germany and some portions of this country. The filtered water is collected by a piping system and delivered into a clear water basin with a capacity of 18,000,000 gallons, whence it flows into the gravity conduit or tunnel, four and one-half miles long by seven feet in diameter, which brings the water to the western pumping station, whence it is pumped into the city mains for distribution in all parts of the city. Later it may be decided to roof over the clear water basin and the Eden Park reservoir. The cost before the completion of the entire plant will be in the neighborhood of $15,000,000.

PENNSYLVANIA.

Philadelphia.

Malpractitioner Sentenced.—"Dr." J. H. King was sentenced by Judge Sulzberger to three years in the Eastern Penitentiary October 31 for criminal malpractice committed on a young woman of Lebanon, Pa.

Jefferson College Library.—The annual report of the Jefferson Medical College library shows an increase during the year of 321 volumes and 100 pamphlets. The library now contains 3,315 volumes. Fifty-three current periodicals are regularly received.

Personal.—Dr. and Mrs. George Fales Baker will spend the winter in Europe.——Dr. Purves Stewart of England delivered a lecture to the students of the medical department of the University of Pennsylvania November 3 on "A Series of Cases of Nervous Disease."

Beriberi at This Port.—Out of 56 Chinamen composing the crew of the British steamer *St. George*, from Java, 8 were found to be suffering with beriberi on examination. They were, therefore, placed in the quarantine hospital at Marcus Hook, and the members of the crew were placed in detention quarters. The vessel will be thoroughly fumigated.

College of Physicians Meeting.—On November 13 Dr. Frank Billings, Chicago, will read a paper on "The Medical versus the Surgical Treatment of Diseases of the Stomach," and Dr. George E. Brewer, New York City, one on "The Indications for Surgical Intervention in Diseases of the Stomach, in the Absence of Symptoms of Perforation or Hemorrhage."

Hospital Reports.—The report of the German Hospital for the past month shows that 321 patients were admitted. There were 20 deaths during the month. In the dispensaries 4,826 patients were treated, and 3,072 of these were treated in the surgical department.——The report of the Howard Hospital for the month shows that 55 patients were admitted to the house; 150 accident cases were treated.——The Methodist Hospital admitted 70 patients and treated 563 in the different dispensaries.——The Charity Hospital treated 790 patients.——The Women's Hospital admitted 116 patients, treated 802 new patients and 1,745 old patients in the various dispensaries.

Health Report.—The report of the Bureau of Health for the week ended November 4 shows that the total number of deaths aggregated 394. This is a decrease of 16 from the number reported last week, and an increase of 8 over that of the corresponding week of last year. The principal causes of death were: Typhoid fever, 7; diphtheria, 10; tuberculosis, 48; cancer, 22; apoplexy, 17; heart disease, 40; acute respiratory disease, 38; enteritis (under 2 years), 17; enteritis (over 2 years), 6; Bright's disease, 34; puerperal sepsis, 4; suicide, 8, and accidents, 15. There were 178 cases of contagious disease reported, with 17 deaths, as compared with 200 cases and 22 deaths for the previous week.

Society Meetings.—The Philadelphia Medical Examiners' Association held its first meeting November 8. The association is composed of medical examiners, and all men doing this work are entitled to membership. The qualifications are the same as for the Philadelphia County Medical Society, but the meetings are open to all physicians.——The American Society of Tropical Medicine will meet in the College of Physicians November 17.——The special lecture arranged by a resolution of the Philadelphia County Medical Society will be delivered November 15 at the College of Physicians by Dr. A. C. Abbott, president of the Philadelphia Bureau of Health, on "The Essentials of Successful Public Health Administration."

Opposes Contract Work.—At a regular meeting of the Medicolegal Society, held October 30, the following amendment to the by-laws was passed unanimously:

Resolved, That on and after the first day of January, 1906, no member of this society shall accept the position of club, society, lodge or organization physician, or agree, or continue to do, any medical or surgical work for any club, society, lodge or organization at a less rate than the regular or customary charges for like services rendered by other physicians for patients not members of such club, society, lodge or organization. Also that in no case shall any physician agree to attend the families of the members of such club, society, lodge or organization at half price or a less price than the regular rate. Nothing in this resolution or section of the By Laws shall be construed as preventing any member from attending the worthy poor at a less rate or to give free service to those who are too poor to pay anything, or acting as city, county or town physician, health officer, or under any political appointments. Any violation of this law shall be considered unprofessional conduct and render the member guilty thereof liable to suspension or expulsion from this society, as the society may determine.

RHODE ISLAND.

New Twin City Hospital.—The board of directors of the Twin City Hospital, Pawtucket, has rented the Mark Dean estate and will remove the hospital effects to the building on that property.

Epidemic of Diphtheria.—There is an epidemic of diphtheria among children who have been in attendance at the Calhoun Avenue primary school, Providence, and among others in that immediate vicinity.

Lawn Fete Receipts.—The lawn fête at the residence of Mr. and Mrs. F. W. Vanderbilt, Newport, in August last, for the benefit of the Newport Society for the Prevention and Control of Tuberculosis, netted $16,476 for the society.

New Hospital for Pawtucket.—Frank A. Sayles, Pawtucket, has announced that he will build and equip a large modern hospital as a memorial to his sister and mother. Work will be started next spring, the hospital will be complete in a year and will then be presented to the city.

Appropriation for Hospital.—Thirty-five thousand dollars has been appropriated by the city council for the aid of the Rhode Island Hospital, Providence, on condition that the hospital furnish twenty beds for the use and treatment of sick or injured employes of the city. Ten thousand dollars was also appropriated for St. Joseph's Hospital.

State Examining Physicians Appointed.—At a meeting of the board of trustees for the State Sanatorium for the Care of Consumptives, held in Providence, October 23, the following were appointed state examining physicians: Drs. Elisha D. Clarke, Woonsocket; Christopher F. Barker, Newport; Roland R. Robinson, Wakefield; John Champlin, Westerly, and Harold Metcalf, Wickford. The formal transfer and opening of the institution occurred November 1. Only residents of the state will be admitted, a minimum rate of $5 per week will be charged, and only cases will be admitted in which there is reasonable prospect of arresting or curing the disease.

SOUTH DAKOTA.

At Work on New Hospital.—Work has commenced on the new hospital building for Mitchell, which is to be completed before July 1 next.

Personal.—Dr. John W. Freeman of the Homestake Hospital, Lead, is taking a vacation, his place being filled by Dr. Daniel K. Dickinson, the original founder of the hospital.

TENNESSEE.

Personal.—Dr. E. Talmage West has been made chief surgeon of the National Soldiers' Home, Johnson City, vice Dr. Frank P. Robinson, resigned.——Dr. Philander D. Sims has been appointed city physician of Chattanooga, vice Dr. J. Sinclair Dyke, to take office January 1.——Dr. and Mrs. E. R. Hochstetter, Chattanooga, have gone to California for a year.

Will Admit Women.—The Tennessee Medical College, Knoxville, will admit women on the same terms as men, beginning with the term opening November 1. An arrangement has been made whereby the college will receive all students desiring to study medicine from the Lincoln Memorial University, Cumberland Gap.——Dr. A. G. Kern has become professor of surgery, vice Dr. John H. Morton, who takes the chair of obstetrics.——Dr. Walter S. Nash has had added to his chair of anatomy that of clinical surgery.——The college is spending $40,000 on a new hospital building which will soon be ready for occupancy.

TEXAS.

Diphtheria.—Diphtheria is reported to be prevalent at Tebo, Merkel and San Angelo.

Personal.—Dr. Benjamin M. Worsham, superintendent of the State Lunatic Asylum, Austin, has returned from New York, where he underwent a successful operation for appendicitis.——In a runaway accident October 29 Dr. Joel M. Gooch, Temple, had a rib broken.

Hospital News.—All Saints' Hospital, Fort Worth, was formally opened on All Saints' Day, November 1. The first floor only is ready for patients. The building will have cost when completed about $18,000.——Plans for the new Santa Fe Hospital at Temple have been prepared. The building is to be a brick structure and will cost $50,000.

VIRGINIA.

Personal.—Dr. J. R. Speigh, city physician of Norfolk, has been suspended for sixty days pending investigation of a case of alleged neglect of duty.——"Dr." Rives Tatum, Harrisonburg, is at present in jail for practicing medicine without a license.

Fighting Diphtheria.—A quarantine has been established in Brandon district, Prince George County, to stamp out the diphtheria which has existed in epidemic form for a considerable time.——The public school at Disputanta has been closed on account of the disease.

GENERAL.

More Food Experiments in Washington.—It is reported that Dr. Wiley's "poison squad" is being reorganized. This time, according to the newspapers, the volunteers will be required to subsist chiefly on cold-storage products.

Instruction in Military Hygiene at West Point.—It is reported that the cadets at West Point Military Academy are to be instructed in the hygienic care of troops, and in the use of medicines for ordinary ailments likely to occur in small commands.

Information Wanted as to the Practical Lives of the Blind.—Dr. George M. Gould, 1722 Walnut Street, Philadelphia, will be grateful for any trustworthy information as to the methods which have been devised by the blind in overcoming their disability or in gaining a livelihood. Accounts of such lives, anecdotes, references to literature, etc., will be appreciated.

Nurses Wanted for Panama.—The government is endeavoring to secure "competent" nurses for service in Panama. These nurses are to receive only $50 a month, with free quarters and rations, and free transportation from New York to the Isthmus. It is said that the government's difficulty in obtaining competent women may be explained by the small salary as compared with that in the United States.

Army Reorganization Approved.—The Association of Military Surgeons of the United States, at its recent meeting, adopted the following resolution:

Resolved, That the Association of Military Surgeons of the United States hereby expresses its entire approval of and earnestly urges the enactment of the bill to increase the efficiency of the United States Army, which bill was submitted by the Secretary of War to Congress at the last session.

Tuberculosis Exhibition.—The American Tuberculosis Exhibition will be held from November 27 to December 9 in the American Museum of Natural History, New York City. The authorities of the museum have placed at the disposal of the committee a large hall, in which will be shown elaborate models of sanatoria, with numerous photographs and charts. The New York Department of Health will be represented by demonstration of its campaign against tuberculosis, and the tenement house department exhibit will contain accurate copies of tenement house rooms under the old and new conditions.

Panama Hospital Internes Wanted.—The United States Civil Service Commission announces an examination November 29-30, at the regular places of examination throughout the United States, for male hospital internes on the Isthmus of Panama. An insufficient number of eligibles resulted from the examination held January 18 for this position. Full information concerning transportation to the Isthmus, conditions of employment, etc., is contained in Form 1417, which may be obtained from the United States Civil Service Commission, Washington, D. C. Age limit, 20 to 30 years; salary, $100 per month, with quarters, but without board and washing. Only graduates of reputable medical schools having a three years' course will be admitted to this examination.

Honors to Professor Ostwald.—The policy adopted by the authorities in France, Germany and this country by which there is an interchange of the services of professors of high rank in the leading universities has been continued by the sending of Prof. Wilhelm Ostwald of Leipsic to this country. He is the recognized pioneer in physical chemistry, preceding van t'Hoff and Arrhenius in his researches, and is now giving a course of lectures at Harvard University on physical chemistry. A banquet in his honor is held November 11 at Brooklyn, given by the physical science department of the Brooklyn Institute. The leading chemists in the universities east of the Alleghanies have been invited, and addresses have been promised by the president of Johns Hopkins, Prof. H. W. Wiley and F. W. Clark, both of Washington, and other chemists from Harvard and elsewhere. A large number of German-Americans who are interested in the chemical industries will also be present.

Army Medical School.—Col. Charles L. Heizmann, president of the United States Army Medical School, Washington, D. C., has made a report of the operations of that school, in which he says that the training of medical officers of the National Guard has so far proved unsatisfactory. He says:

> At this session of the school was inaugurated the training of medical officers of the militia of the states in everything pertaining to military medicine as distinct from naval, municipal, state and civil medicine, etc., in order that, under the Dick law, they might become qualified in the emergency of war to perform all the duties of military surgeons of the national army. If my interpretation of the purpose is correct I regret to report that the result was not satisfactory. All these officers were studious and earnest, and all would have contributed to the sanitary and disciplinary education of the organizations to which they belong had they returned to them. The majority, however, developed an intention to use the school as a means of employment in the regular establishment, thus to deprive their states of their services. One succeeded in receiving a commission in the army and two secured contracts. This result is interesting in demonstrating the need of some regulation by which the purpose of the law would be fulfilled in greater part, and at the same time secure for the regular and volunteer forces the best material possible. This last point will be attained by requiring all militia medical officers who have served one year as such and who have been recommended by the governors of their respective states to pass an entrance examination similar to those exacted of line officers by the artillery school and the infantry and cavalry school.

Yellow Fever News.—On November 5 only seven cases of yellow fever were under treatment in New Orleans.——The surgeons who worked under Dr. J. H. White during the campaign against yellow fever, on October 25 gave him a farewell

banquet.——During the epidemic several physicians who, by reason of supposed previous attacks of yellow fever considered themselves immune, suffered infection. Consequently there is now some discussion as to immunity.——Georgia raised its quarantine on October 26.——The adjoining towns of Leeville and Côte Blanche have a joint combined population of about 950. Of these, during the six weeks' epidemic 788 had yellow fever and 104 died of the disease.——Governor Blanchard and Mayor Behrman each gave a reception to Surgeon White and his assistants at New Orleans on October 25.——The situation at Pensacola is greatly improved, though one citizen secured a court order forbidding the health officers to fumigate his residence, thus threatening the cessation of all sanitary work.——The unexpended balance of the citizens' fund at New Orleans amounts to a little over $40,000. Publication of the detailed expenditures has made the *American* and its silly charges of graft look pretty small.——The Vicksburg epidemic is about at an end.

Plague in Hawaii.—Passed Assistant Surgeon Hobdy reports that two fatal cases of plague occurred in Waipahu Oahu on October 10. Waipahu is about nine miles from Honolulu; is the headquarters of one of the large sugar plantations, and is populated largely by oriental laborers. These laborers live in camp, reproducing in miniature the customs and conditions of their native land, and it is in one of these camps that five or six cases of plague have occurred during the last eighteen months. The two fatal cases mentioned occurred here in a Korean family, mother and daughter, and the bodies were cremated at the United States quarantine station October 11. The place was thoroughly cleaned up and disinfected by the local board of health, and no other cases have occurred. A third patient went into the Japanese hospital at Honolulu suffering with a supposed simple bubo, which was removed. The operator decided that the case was suspicious, and the bacteriologist to the board of health was called and pronounced the case plague. The patient was removed to the hospital for contagious diseases, where he died October 13, and the body was cremated on the same day. All possible precautions have been taken in cleaning up this man's dwelling and the hospital also. The source of infection could not be traced in any of these cases. A later cablegram from Dr. Hobdy states that another death from plague occurred October 24, and that outgoing quarantine has been instituted.

Cholera in the Philippines.—Dr. Heiser, chief quarantine officer, reports that while the total number of cases of cholera for the week ending September 23 is slightly in excess of those reported for the preceding week, yet the situation is not considered serious, and there is every reason to believe that the disease will be stamped out very shortly in the city of Manila. One very disquieting feature is the continued presence of cholera on the watershed of the Maraquina Valley, above the intake of the city water supply. Every effort is being made to guard against pollution, three troops of cavalry being engaged on this work. Dr. Heiser states that considerable anxiety was felt during the early part of that week on account of a report from Nueva Caceres that one case of cholera had made its appearance at that place. During the cholera outbreak of 1902 the disease appeared at Nueva Caceres almost simultaneously with its appearance at Manila, and since travel between Manila and Nueva Caceres during the present outbreak was practically impossible, except that which underwent the regular quarantine of five days, it was not likely that the disease could have been carried from Manila. Should this case have been correctly diagnosed, it would appear to afford additional evidence that the disease is endemic in the Philippines. No additional cases have occurred, however, and this fact will appear to throw considerable doubt on the diagnosis. Cholera in the provinces is still confined to about the same limits. The cases at Taytay have markedly increased until they have now reached a total of 56 cases, with 48 deaths. The total number of cases in the city of Manila since the outbreak has been 195, with 168 deaths. The number of cases in the provinces has been 260, with 213 deaths.

CANADA.

Improved Sanitation for Winnipeg.—Dr. R. M. Simpson, chairman of the Manitoba board of health, advocates for Winnipeg abolition of all box closets, a visible water supply, and a health officer and board of health independent of all aldermanic influence. By this means, he says, can that city free itself of the annual visitations of typhoid fever.

Ontario Board of Health.—The regular quarterly meeting of the Ontario board of health took place during the last week of September, when the prevalence of smallpox and typhoid fever were discussed. The board has decided to advocate vaccination and revaccination before manhood or womanhood has arrived. For September the number of cases of typhoid fever was 278, with 45 deaths. There were 13 cases of smallpox and 1 death.

Personal.—Dr. George W. Ross, Toronto, son of the former premier of Ontario, has been elected pathologist and registrar of the Victoria Park Hospital, London, England.——Dr. Claude Freeman, formerly superintendent of the Hamilton (Ont.) City Hospital, sailed November 4 from San Francisco for Chung-King, China, where he has received a hospital appointment.——Dr. E. S. Turnbull, Branchton, Ont., has received an appointment to the staff of the Protestant Hospital for the Insane at Verdun, Quebec.——Drs. G. D. Johnson and I. Glen Campbell, Vancouver, B. C., have declined to decide for a judge whether two Japanese who are ordered deported for trachoma, are cured or not, although two other Vancouver physicians say they are and two say they are not.——Dr. J. M. Lenny, Winnipeg, has been appointed division surgeon of the new transcontinental railway, the Grand Trunk Pacific.——Dr. F. Montizambert, director general of public health at Ottawa, is making his annual tour of inspection and is at present at Victoria, B. C.——Dr. George D. Porter, Toronto, has gone to Europe for a year's hospital work.

FOREIGN.

Plague in Australia.—Two fatal cases of plague occurred at Townsville, Queensland, during September; both patients were men between 20 and 30 years of age. Two suspects are under observation.

Yellow Fever in Mexico.—During the week ending October 23 Dr. Wilson of the Public Health and Marine-Hospital Service reports that there were three fatal cases of yellow fever in Vera Cruz.

Typhoid Fever in England.—During October there was an epidemic of typhoid fever at Basingstoke, and, according to the *Lancet*, the sanitary authorities of the town are being publicly accused of neglect of duty. It is reported that there have been about 128 cases, with 6 deaths.

Plague and Cholera in India.—In Bengal, during the week ending September 16, there were 93 cases and 72 deaths from plague. In the whole of India, during the same period, there were 3,930 cases and 2,871 deaths. In Calcutta, during the week ending September 23, there were 38 deaths from cholera and 13 from plague.

Physicians in City Councils.—A large proportion of the members of the city council of Paris, France, have been making a visit to London recently, as the guests of the London city council. The French council is presided over by a physician, Dr. Brousse, who has long held the post of president of the municipal council. A few years ago the president of the London municipal council was also a physician, Dr. W. J. Collins, and it is rumored that a physician is to be the next lord mayor of London.

Dysentery in Japan.—It is reported that dysentery has been prevalent in various districts in Japan during the present year. *Public Health Reports* states that the total number of cases and deaths from this cause from Jan. 1 to Sept. 5, 1905, with the figures for the corresponding period of last year, are given as follows: 1905, 20,917 cases, 4,002 deaths; 1904, 11,498 cases, 2,165 deaths. Dysentery has been particularly prevalent in the neighborhood of Osaka. In Yokohama cases of dysentery have not been unusually numerous, while Kobe has suffered severely.

Yellow Fever on the Isthmus.—According to *Public Health Reports*, no cases of yellow fever have occurred on the Isthmus since October 4, the last reported case having occurred at Matachin on that date. Considering the thorough work of inspection being carried on, it is justifiable to infer that no cases exist at present in Panama, Colon or the Canal Zone. The last case to occur in Cristobal was reported on August 7, since which time over 200 non-immune employes have been transferred to that place from Panama; yet nothing of a suspicious nature has been observed among them. This is looked on as good evidence that no infection exists there. The most rigid inspection of all hotels, lodging houses and places of public resort has failed to reveal anything suspicious. The fumigation of such places at regular intervals continues.

Koch Returns to Europe.—Robert Koch has returned to Berlin after nearly a year spent in scientific research in the tropics. It is rumored that he has discovered a new intermediate host for the transmission of a cattle disease prevalent in

Africa, a special kind of tick, but no official communication from him has yet been published. One of our German exchanges comments on his return that Germany and the world owe him a debt of gratitude, as he not only discovered the germ of cholera, but taught effectual measures to stamp it out. The recent epidemic of cholera in Germany has entirely died out, it states, no new cases having been reported for some time. The amazingly small number of cases—only 291 in all, with 90 deaths—and the tranquillity of the populace, are evidences of the progress which civilization owes to Robert Koch.

Yellow Fever in Guatemala.—Acting Assistant Surgeon Peters reports from Livingston that a case of yellow fever occurred in a native who went to Livingston from Sarstoon, a small place on the coast. The origin of infection was easily traced, as the patient had been sleeping in a house in which, during July, there had been a number of cases of yellow fever. When informed of the nature of the disease the governor immediately gave orders to have the house fumigated, and unless there are other infected houses which have been overlooked it is not likely that the infection will spread. This is the first case of yellow fever in Livingston since July 30, 1905, therefore the infected mosquitoes have been in the house for about seventy days, as the former cases occurred about July 20, and Dr. Peters has not heard of anyone being sick in the house since then.

Medical Substitution.—A physician at Düsseldorf, Germany, Dr. Weisbrod, conducts an establishment for treatment of cutaneous and venereal diseases. He is assisted in his practice by an undergraduate named Rösaler, who has been for years in his employ. Weisbrod has been in the habit of entrusting his patients to Rösaler, giving him blank prescriptions which the latter filled out for the individual case. As this substitution was not known to the patients, they supposed they were being treated by Dr. Weisbrod instead of by the assistant. When some of the patients learned the facts they accused Dr. Weisbrod of deception and carried the case into the courts. The claim was sustained by the legal proceedings, which imposed two months' imprisonment on Weisbrod and one month's on Rösaler. The judge emphasized the deception practiced and especially the point that in venereal diseases such a manner of conducting medical practice might easily do great harm.

Surgeon Sued for Neglect by Nurse.—Our German exchanges relate that after a certain surgeon had operated on a patient, he left her in charge of the nurse, with instructions to put hot-water bottles in the bed. The nurse was 21 years old. She used such hot bottles that they burned the patient. When the latter aroused from the anesthesia she found her legs so badly burned that they did not heal for eighteen months, and a nervous affection was left, persisting to date. Damages to the extent of $1,000 were asked from the surgeon and nurse, and the first court decided in favor of the plaintiff, censuring the surgeon for leaving the patient in charge of such a young nurse. Appeal to a higher court resulted in the acquittal of the surgeon, the judge deciding that, as he was only in the service of the hospital, he was not responsible for the nurse supplied by the superintendent of the hospital for the case. Appeal to another court reversed this decision, the court holding the surgeon responsible, but a final appeal resulted in his acquittal at last as not being responsible for the actions of the nurse, while the full penalty was imposed on the nurse.

Continental Anglo-American Medical Society.—The American and English physicians residing in various cities in Europe and northern Africa associated themselves together several years ago for mutual friendship and good-fellowship, and to let the fact become known that there are reliable English-speaking physicians at various points on the continent. Once a year the members gather at Paris for an annual banquet, and the occasion is always a most delightful one. This year the banquet was held on October 5, during the same week as the Tuberculosis Congress, and the attendance reached 60 out of a total membership of 110. A number of noted guests from America and England were present. Dr. Lawrence Flick of Philadelphia responded to the toast, "America," and Sir William Hingston to "Canada." At the business meeting before the banquet, measures were discussed as to the best way of making the society known to the traveling public. The list of members is supplied each year to the consuls on the continent and to the publishers of the guide books and health resort bureaus, and copies are to be sent to leading physicians in England and America. Dr. Leonard Robinson, Paris, is the secretary.

Pharmacology

WAR AGAINST FAKE MEDICINES.

The Case of "Nature's Health Restorer," as Exposed by the Government.

Very few are aware of the work that has been done by the Postoffice Department, in connection with the chemical laboratory of the Department of Agriculture at Washington, to prevent the people being deceived by patent medicine frauds. Naturally the newspapers do not go out of their way to publish these exposures, and consequently little is heard of what is being done in this regard. On two former occasions we have published reports of such investigations, and this week we give another, using the matter as presented by the *Oil, Paint and Drug Reporter*.

The Postoffice Department, in connection with the general movement designed to bar fraudulent schemes of all kinds from the mails, has just taken action of much importance which marks a distinct advance over all attempts heretofore made to prevent the sale of fake medicines, nostrums, etc., with the aid of extravagant claims made in advertising literature circulated through the mails. A fraud order has been issued against the proprietors of a medicine known as "Nature's Health Restorer" on the ground that the claims of efficacy made are extravagant and untrue and therefore fraudulent. It is conceded by the postal authorities that the remedy is composed of standard drugs with important therapeutic properties, and that it is probably a valuable curative agent in the case of certain of the ailments for which it is advertised, and the fraud order is thefore based on the claims made for the preparation as a cure-all, which claims, the Department declares on the authority of the Department of Agriculture, can not be substantiated. It will be seen at a glance that the action of the Postoffice Department in this case is far more important than that heretofore taken with regard to medicines of any kind, and also that there are hundreds of proprietary remedies now being widely advertised and sold in large quantities that are undoubtedly open to the same objections that are raised against this particular preparation.

Through the courtesy of the Assistant Attorney General for the Postoffice Department, the *Reporter's* correspondent is enabled to present a full abstract of the report in this case, which discloses the methods employed by the department in the investigation and the character of the evidence on which the claims as to this particular remedy have been declared to be false and fraudulent. This abstract is as follows:

"The Western Medical Institute, which is owned and conducted by W. S. Burkhardt, is engaged in the manufacture and sale of a certain medicine which it styles 'Nature's Health Restorer.' The price of the medicine is $1 for a nine months' treatment. The selling of this medicine is conducted principally, if not entirely, through the medium of the mails.

"The literature used to promote the sale of this medicine is marked Exhibit A, B, C and D. Exhibit A is the circular which accompanies the free sample to the individual. Exhibit B is the circular which accompanies the free sample to the prospective agent. On the reverse side of Exhibit A appears the following:

"'CURE FOR CERTAIN DISEASES.

"'Kidney Disease. Nature's Health Restorer. One treatment will do its duty and cure the most stubborn case.

"'Liver Disease. Nature's Health Restorer will cleanse all the little blood vessels and absorbents, and thoroughly restore health.

"'Rheumatism. Nature's Health Restorer will cleanse the system of the acid and restore activity.

"'Erysipelas. Nature's Health Restorer will cleanse the impurities and humors of the blood, making the skin bright, clear and of a rosy hue.

"'Scrofula. Nature's Health Restorer will cure this disease, positively restoring the skin to its normal condition.

"'Neuralgia. Nature's Health Restorer, if taken as directed, drives all the pain away in a short space of time.

"'Female Complaints. Nature's Health Restorer will cure just as sure as you take it according to directions.'

"On Exhibit D is found the following: "'It (Nature's Health Restorer) will positively cure rheumatism . . . nervous troubles . . . female complaints, catarrh, liver trouble, kidney disease, . . . or any blood disorders whatever.'

"On Exhibit C is found the statement:

"'We guarantee Nature's Health Restorer to cure all the diseases named on the treatment.'

"A sample of this medicine was submitted to the Department of Agriculture for analysis and report as to whether the same would cure the conditions represented above to cure. I quote as follows from that report:

"'This medicine possesses both tonic and laxative properties and is useful in cases of constipation and a condition of the system known as "run down," and will naturally alleviate affections resulting from the above conditions, but it will not, as a rule, cure "kidney disease, liver disease, rheumatism, scrofula, erysipelas, neu-

ralgia" and a host of affections grouped under "female complaints." It will not cure Bright's disease, indurated liver or tubercular infection of the lymphatic glands. The per cent. (12.29) of ash shows that it is not purely vegetable, as claimed in Exhibit No. 1 (Exhibit A). The advertising tends to deceive and mislead would-be patients.

"Sterling Ruffin, W. P. Carr and D. K. Shute, regularly licensed and practicing physicians of the District of Columbia, state that in their opinion medicines composed of the ingredients of 'Nature's Health Restorer' will not cure rheumatism, erysipelas, scrofula, catarrh, nervous diseases, liver disease and blood disorders, as represented by that company. They state further, that, while the medicine might afford the same relief as that given by any laxative, as a rule no cure can be effected.

"From these statements it appears that the representations and pretenses employed by the Western Medical Institute to further the sale of 'Nature's Health Restorer' are untrue, and that the medicine is incapable of acting as the company pretends it will. A full opportunity to combat these statements was given the company, which has filed with the office the statement of Dr. A. L. Guertin of Cincinnati; statement of Dr. J. B. Ragland of Cincinnati; statement of Charles G. Merrell, chemist, of Cincinnati; testimonial of Thomas H. Wright, newspaperman of Cincinnati, and statement of W. A. Leach of Dayton, Ohio, former manager of the Western Medical Institute. Dr. Guertin states that he has been practicing medicine twenty-two years; that he has been acquainted with the medicines of the Western Medical Institute for about ten years; that he knows from experience the use of these medicines that they are reliable remedies; that he has recommended them in cases of rheumatism, erysipelas, scrofula, catarrh, nervous diseases, female complaints, kidney and liver diseases and blood disorders, and that he knows of his own personal knowledge many cures that have been effected by these remedies. Dr. Ragland states that he has been practicing medicine for thirty-seven years; that he has been familiar with the medicines of this company for a number of years, and has found them to give universal satisfaction to people who have used them, and that they will cure kidney and liver diseases, catarrh and stomach troubles and also such diseases as are brought on by constipation of the bowels. The statement of Mr. Merrell deals with the well-known and recognized properties of the medicines forming the ingredients of 'Nature's Health Restorer.' The testimonial of Mr. Wright is to the effect that it has cured him of kidney, liver and stomach trouble. The statement of Mr. Leach is to the effect that, during the period he was with the said company, many unsolicited testimonials were received from people who stated that they had been cured of rheumatism, kidney trouble, stomach trouble, etc., by the medicine.

"These statements, submitted by the company, were forwarded to the Department of Agriculture for report thereon. The report of the Department reads in part as follows:

"'Mr. Charles G. Merrell is a member of the William S. Merrell Chemical Company, which manufactures many forms of medicinal remedies. The points made by him are conceded by us and are well known to the medical profession. The ingredients employed by the Western Medical Institute in the manufacture of 'Nature's Health Restorer' are all recognized by the United States Pharmacopeia, and are known to possess valuable medicinal virtues. The statement that the advertisements of the "Vegetable Compound," which is understood to be the same as "Nature's Health Restorer," are in no way extravagant is certainly not in accordance with the experience of others.

"'Mr. Merrell also states that there is present in this medicine "a proportion of 'terra alba.'" This confirms our statement in a former letter to you to the effect that "Nature's Health Restorer" is not purely a vegetable compound. Terra alba certainly does not have its origin in vegetables.

"'I note what the two physicians say. This is diametrically opposite to the statements submitted to your department on a former date from the most reputable physicians of this city. I would suggest that the standing of these two physicians be investigated.

"'Mr. Wright's statement, in my opinion, does not deserve consideration. In the first place, he can not possibly be conversant with the nature of the various diseases he enumerates, and, in the second place, he claims to have been cured of kidney, liver and stomach troubles, and from this he jumps to the conclusion that it "can be justly recommended to cure . . . sick headache, fever and ague, catarrh and scrofula." This conclusion is without foundation.

"'The affidavit of Mr. W. A. Leach, for several years connected with the Western Medical Institute, embodies business principles and should be considered in finally summing up this side of the case, but it contains nothing which tends to make any one versed in the art of medicine believe that "Nature's Health Restorer" will do anything more than any other ordinary laxative medicine.

"'In accordance with the suggestion of the Secretary of Agriculture that the statements and standing of the two physicians, A. L. Guertin and J. B. Ragland, thoroughly investigated, the matter was submitted to the Inspector of Chemistry. Drs. Ragland and Guertin admitted to the inspector the falsity of their affidavits and retracted the statements therein made. These statements are, therefore, entitled to no credit in determining the issue whether this medicine will cure the diseases which the company represents that it will cure, and which the Department of Agriculture and Drs. Ruffin, Carr and Shute state it is incapable of curing. Even Drs. Ragland and Guertin, when interviewed by the inspector, admitted that these medicines are incapable of making the cures represented by the company. It seems that, while this medicine possesses merit as a laxative, with some tonic properties, the representations of the company that it will cure rheumatism, erysipelas, scrofula, catarrh, nervous diseases, neuralgia, female complaints, kidney disease, liver diseases and blood disorders are wholly without warrant, and that the well-known medical properties of the ingredients of 'Nature's Health Restorer' deny its efficacy to cure these conditions. The evidence is therefore clear that the representations quoted above to the effect that this medicine will positively and certainly cure the conditions mentioned are false and fraudulent, and without warrant.

"The following representations also made by this company in the promotion of the sale of this medicine are found to be false and fraudulent:

"'We have discovered one of the most valuable treatments that was ever placed within the reach of the public.'

"'We have labored for many years to discover this peerless remedy.'

"'The best, safest and most beneficial remedy known to the medical world.'

"'Its results are marvelous and something that has never been produced by other treatments which have been prepared by physicians known to be the best our country affords.'

"'Our past experience covering a number of years has taught us to regard with wonder and admiration our phenomenal success.'

"'These medicines . . . are priceless as the dazzling jewels in the crown of the proudest king on earth.'

"'Our great remedy.'

"These representations, in their entirety, are calculated to create, and do create, in the mind of the reader that the medicine of the Western Medical Institute is a new discovery in the field of medicine; that it possesses unusual and extraordinary efficacy and is far superior to any other medicine 'known to the medical world.' As a matter of fact, this medicine is not new, its ingredients are well known and have been for years and are constantly used by physicians. The above representations are therefore misleading and carry a false idea to the mind of the reader. The company cloaks its attempts to explain that its claim to the discovery of this medicine lies in the proportions used. The mere fact, however, that this company uses the constituents of this medicine in slightly different proportions from any others is wholly insufficient to warrant the extravagant statements noted above, and does not remove from them their misleading and deceptive character.

"The evidence in this case satisfies me that the pretenses and representations used by this company to promote the sale of this medicine are false and fraudulent, and calculated to deceive, and that the medicine will not cure the diseases that the company represents it will cure. It follows that the scheme set on foot by the company for obtaining money through the mails on pretenses, representations and promises which are false and fraudulent within the meaning of Sections 3929 and 4041 of the Revised Statutes, I therefore recommend that fraud order be issued against the Western Medical Institute at Cincinnati."

Wine of Cardui.

Prof. Henry Leffmann of Philadelphia writes us that on reading the remarks of Mr. Patten of the Proprietary Association, and of the Chattanooga Medicine Company, as published in THE JOURNAL two weeks ago, he decided that it would be worth while to examine a bottle of the "Wine of Cardui" put out by the companies with which Mr. Patten is connected. He says: "I bought a bottle to-day. I find that the article contains considerable alcohol. It is, therefore, of the type of 'booze' that Mr. Patten excludes from the list of true proprietaries. The label states 'this pure wine is a simple vegetable extract, without intoxicating qualities, and has proved to be the most astonishing tonic for women known to medical science.'

"It is a turbid liquid of a dirty brownish tint, with an odor partly alcoholic and aromatic, partly disagreeable. The taste is markedly alcoholic and also nauseous. The residue on evaporation is about 7 per cent. A tablespoonful heated to boiling in a test tube gives enough alcohol promptly to produce a flame five inches long. There is no question, therefore, that this is an intoxicant in the scientific and practical sense of that term."

Prescribing Nostrums in Indiana.

A reference to our Medicolegal Department this week will show that in Indiana they have a law providing that anyone who prescribes a drug or medicine, the true nature and composition of which he does not make known, but avows to be a secret remedy, thereby endangering the life of another person, is liable to a fine of not less than $30 nor more than $100, and to be imprisoned in the county jail for not less than sixty days nor more than six months. If this law means all that it appears to mean, and if it is enforced, it will have a tendency to check nostrum prescribing in Indiana.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of October:

ALABAMA.

Eslinger, L. P., New Market.
Lindsey, J. M., Hightower.
Tribble, A. H., Hot Springs.
Williams, A. U., Hot Springs.

ARIZONA.

Greene, W. A., Douglas.
Mellek, P. A., Williams.

ARKANSAS.

Amis, J. C., Ft. Smith.
Evans, R. L., Harrison.
Stephens, G. K., Newport.
Stuart, J. M., McGehee.
Thompson, H. M., Ashvale.

CALIFORNIA.

Beck, H. M., San Francisco.
Dodge, William, Los Angeles.
Kearney, Elizabeth P., Los Angeles.
McNab, T. R., Los Angeles.
Sutherland, H. M., Oakland.
Toner, J. M., San Francisco.
Van Tassell, F. H., Fresno.
Von Adelung, R., Oakland.
Wheeler, J., Sacramento.

COLORADO.

Babcock, M. L., Julesburg.
Christy, G. H., Lafayette.
Dodds, E. S., Pueblo.
Lucas, W., Segunda.
Rice, D. H., Colorado Springs.
LeRossignol, W. J., Rifle.

CONNECTICUT.

Brackett, A. S., Bristol.
Ingalls, P. H., Hartford.
Kilbourn, C. L., New Haven.
Rose, J. H., Hartford.
Smith, F. L., Stafford Springs.

DISTRICT OF COLUMBIA.

Carmichael, R. B., Washington.
Chamberlin, F. T., Washington.
Davis, C. L., Washington.
Harrington, F. E., Washington.
Hodges, J. W., Washington.

IDAHO.

Gaigneord, George, Lookout.
Steely, O. B., Pocatello.

ILLINOIS.

Bernhardt, A. P., Chicago.
Bertling, E., Chicago.
Caristein, J. A., Chicago.
Gould, Henrietta, Chicago.
Harmison, F. B., Chicago.
Huntington, M. L., Moline.
Morgan, C. E., Humboldt.
Nadig, A. T., Elizabeth.
Schalck, A., Chicago.
Scheibe, H. R., Canton.
Shafer, H. O., Chicago.
Sherman, W. P., Aurora.
Simon, L. S., Chicago.
Smith, R. O., Pittsfield.
White, H. O., Chicago.
Young, J. E., Chicago.

INDIANA.

Casebeer, J. B., Auburn.
Chamberlain, Cameron, Indianapolis.
Erdman, R., Indianapolis.
Hogan, J. Terre Haute.
Hughes, W. L., Indiana Harbor.
Linthicum, E., Evansville.
Ramsay, J. E., Vincennes.
Sharp, W. N., Indianapolis.
Snyder, H. E., Troy.
Tomlin, W. S., Indianapolis.

IOWA.

Alderson, James, Dubuque.
Clingan, Chas. E., Sioux City.
McCorkle, W. A., Cedar Rapids.
Murphy, J. J., Cedar Rapids.
Noaes, Herbert, Slater.
Purcell, B. E., Iowa Falls.
Sibley, S. R., Sioux City.

KANSAS.

Armstrong, J. B., Portis.
Bell, James, Meivern.
Blasdel, G. A., Haven.
Brown, J. C., Wichita.
Carter, J. A., Randall.
Carter, W. W., Wathena.
Cloutz, A. L., Minneapolis.
Fitch, Frank J., Holton.
Foulks, C. A., Kansas City.
Funk, C. C., Smith Center.
Graves, L. G., Atwood.
Gsell, J. F., Wichita.
Hagan, Martin, Wichita.
Hofman, J. E., Wichita.
Howell, D. W., Havana.
Johnson, A. C., New Murdock.
Little, Cora F., Manhattan.
McCloggage, J. E., Douglas.
McQuaney, J. H., White Cloud.
McQuire, J. W., Neodesha.
Melsel, A. J., Atwood.
Moorehead, J. L., Neodesha.
O'Flyng, F. S., Seward.
Reitzel, W. M., Cleburne.
Ruggles, Chas. A., Stafford.
Speirs, G. O., Elkenwood.

KENTUCKY.

Brosheer, C. K., Middlesboro.
Duvall, B. A., Louisville.
Wood, Jno. E., Lakeland.

LOUISIANA.

Edgerton, E. O., Gahagan.
Slaughter, J. H., Monroe.

MARYLAND.

Amberg, Samuel, Baltimore.
Jennes, J. H., Rising Sun.
Seegar, K. R. E., Baltimore.
Siemons, J. M., Baltimore.

MASSACHUSETTS.

Alexander, Clara J., Boston.
Atwood, F. S., Salem.
Binney, H., Boston.
Bolles, W. P., Boston.
Bowker, E. M., Brookline.
Chapman, H. J., Everett.
Chollerton, H., Somerville.
Cutts, H. M., Brookline.
Guild, T. E., Mattapan.
Fay, William E., Boston.
Flagg, L., Boston.
Galvin, Wm., Blackinton.
Hartwell, J. B., Boston.
Morris, S. J., Rivers.
O'Keefe, M. W., Boston.
Peck, A. F., Spencer.
Stearns, Robert T., New Bedford.

MICHIGAN.

Eccles, R. M., Bismfield.
Jones, F. A., Lansing.
Langford, T. S., Jackson.
McNamara, F. W., Detroit.
Jackola, John, Hancock.
Parmall, C. G., Ann Arbor.
Van Riper, P. L., Beacon.
Webster, E. H., Sault Ste. Marie.

MINNESOTA.

Kjelland, J. S., Crookston.
Linneman, N. L., Duluth.
Nippert, H. T., St. Paul.

MISSISSIPPI.

Britt, W. L., Pocohontos.
Tabor, J. A., Scranton.
Waldrup, M. W., Laurel.

MISSOURI.

Abrams, W. E., Kansas City.
Adair, T. W., Archie.
Bardenheier, F. G. A., St. Louis.
Brihach, B., St. Louis.
Brockman, H. H., Eldon.
Bronson, T. Ira, Sedalia.
Carpenter, R. H., Helena.
Clapp, C. L., Chicago.
Cotton, T. W., Van Buren.
Gellhorn, Geo., St. Louis.
Harris, R. W., Georgetown.
Laning, J. H., Kansas City.
Ormsbee, J. L., Springfield.
Miller, W. M., Columbia.
Porter, H. L., Seneca.
Ramey, R. D., Garden City.
Shelton, J. C., New Hartford.
Smiley, F. E., Boonville.

NEBRASKA.

Jensen, Frank, Newman Grove.
Peter, F. J., Omaha.

NEVADA.

Burnett, W. F., Eureka.

NEW JERSEY.

Baker, C. F., Newark.
Davidson, L. C., Newark.
Kirkman, L. G., Newark.

NEW YORK.

Christie, A. C. Clymer.
Clarke, A. V., New York.
Payne, F. J., Chautauqua.
Sprague, S. R., New York.
Swift, H. B., New York.

NORTH CAROLINA.

Brawley, R. V., Salisbury.
Burress, J. T., High Point.
Ferguson, K. M., Southern Pines.
McKay, J. L., King's Mountain.
West, R. M., Salisbury.

OHIO.

Bell, A. P., Zanesville.
Brubaker, P. R., Bucyrus.
Gibbon, H. B., Tiffin.
Goldsmith, M. E., Cleveland.
Jenkins, A. A., Cleveland.
Keelor, T. E., Lebanon.
Lee, J. F., Mt. Vernon.
Linley, Thos., Cleveland.
MacGregor, Alex., Springfield.
Maschke, A. S., Cleveland.
Mueller, Otto, Cleveland.
Murray, F. M., Navarre.
Oakes, J. N., No. Ridgeville.
Rayl, W. L., Cleveland.
Scheerer, Frank, Cincinnati.
Scully, A. P., Cleveland.
Smith, A. H., Marietta.
Thomson, F. S., Dayton.
Ulmer, C. A., Bucyrus.
Walker, T. W., Steubenville.
Weits, G. J., Cleveland.
Woodworth, J. R., Delaware.
Yarian, N. C., Cleveland.

OKLAHOMA TERRITORY.

Burnes, E. J., Harrah.
Edens, M. H., Verden.

PENNSYLVANIA.

Ackerman, J., Erie.
Bacon, H. A., Philadelphia.
Bair, G. E., Braddox.
Doran, C. P., Phoenixville.
Ferris, F. S., Philadelphia.
Headland, M. E., Butler.
Hershey, J. D., Manheim.
Hunter, Andrew, McKeesport.
Kennedy, Jas. S., Chambersburg.
Longnecker, J., Philadelphia.
Miller, E. M., Beavertown.
Schoch, L. E., Shamokin.
Shank, O. J., Windber.
Taylor, C. E., Irwin.
Thompson, J. C., Franklin.
Wolf, Jacob, Allegheny.

PORTO RICO.

King, W. W., Albonito.

RHODE ISLAND.

Sullivan, M. H., Newport.

SOUTH CAROLINA.

Dorsey, R. M., Spartenburg.
Mauldin, W. L., Jr., Greenville.
Steedly, B. B., Gaffney.
Williams, C. P., Columbia.

SOUTH DAKOTA.

Perkins, E. L., Sioux Falls.

TENNESSEE.

Huddleston, J. J., Memphis.
Kern, A. G., Knoxville.
MacKenzie, C. F., Nashville.

TEXAS.

Redmond, Henry, Corpus Christi.
Windham, William C., Shelbyville.

UTAH.

Brownfield, R. R., Vernal.

VIRGINIA.

Merchant, W. F., Manchester.

WASHINGTON.

Blair, H., Elma.

WISCONSIN.

Calvey, P. J., N. Fond du Lac.
Campbell, A. D., Richland Center.
Benson, Gideon, Richland Center.
Holtz, H. M., Beaver Dam.
McKittrick, P., Thorp.
Munger, R. C., Barneveld.
Perry, Goetz, Amery.
Voight, O. F., Gillett.
Wells, J. H., Genoa.

Marriages

OTTO G. SMERSH, M.D., Dodge, Neb., to Miss Anna Longarre of Omaha, October 28.

CHARLES W. BONYNGE, M.D., to Miss Juliet Phelps, both of Los Angeles, October 24.

SAMUEL P. FREE, M.D., Perry, Iowa, to Miss Flora Allen of Earlham, Iowa, October 25.

J. B. PERSON, M.D., Selma, N. C., to Miss Hattie Moseley of Kinston, N. C., October 25.

SAMUEL R. UPHAM, M.D., to Miss Marguerite Bailey, both of Claremont, N. H., November 7.

HARRY N. ANDERSON, M.D., to Miss Margaret Holmes, both of Scranton, Iowa, October 18.

WILLIAM HARRISON BALLARD, M.D., Los Angeles, Cal., to Miss Louise Baker, October 27.

JAMES W. DALBEY, M.D., to Mrs. Fannie Schneider, both of Cedar Rapids, Iowa, October 30.

MARVIN PENCE, M.D., to Miss Elizabeth Hoover, both of Nicholasville, Ky., November 2.

AUGUST KNOEFEL, M.D., Linton, Ind., to Miss Minnie Kierner of New Albany, Ind., October 25.

WILLIAM H. SHAVER, M.D., Madelia, Minn., to Mrs. Olive J. Reimstad, Minneapolis, October 25.

THOMAS CHARLES BUXTON, M.D., Decatur, Ill., to Miss Anna Strope of Oreana, Ill., November 4.

FRED E. CLOW, M.D., Wolfboro, N. H., to Miss Jessie F. Belesa of Waltham, Mass., October 25.

L. NAPOLEON BOSTON, M.D., Philadelphia, to Miss Caroline Crandall of Westerly, R. I., October 28.

DELMAR SMITHERS, M.D., Chesapeake City, Md., to Miss Annie Young, at Belair, Md., November 1.

E. M. HOLMES, M.D., Readyville, Tenn., to Miss Elizabeth Vaughan of Shelbyville, Tenn., October 18.

FRED B. JEWETT, M.D., Howard, R. I., to Miss Caroline Maloon of East Machias, Maine, August 22.

CARL CLIFFORD WHITE, M.D., Mathews, Va., to Miss Emma Lee Smith of Charlottesville, Va., October 26.

CHARLES E. PATTERSON, M.D., Grand Rapids, Mich., to Miss Helen G. Moore, at Denver, Colo., October 24.

LOUIS D. MEAD, M.D., Byron Hot Springs, Cal., to Miss Charlotte Lamseau of New York City, October 31.

HERBERT MCKAY COULTER, M.D., Azusa, Cal., to Miss Edith Sylburn Isham of Pasadena, Cal., October 25.

EDWARD FRANKLIN LOVEJOY, M.D., to Miss Edith Marie Fisher, both of Chattanooga, Tenn., October 25.

JOHN FRANKLIN CRAWFORD, M.D., Hampton, Ky., to Miss Annie Patton Bridges of Louisville, October 31.

FRANK H. EDWARDS, M.D., to Mrs. Clara Caton Sirrine, both of Evanston, Ill., in Waukegan, Ill., October 28.

WILLIAM FAYETTE OWSLEY, M.D., Burkesville, Ky., to Miss Anne Pearl Owings of Lexington, Ky., October 25.

LIEUTENANT GEORGE F. ADAIR, assistant surgeon, United States Army, to Miss Pearle Parke of Chicago, November 8.

J. R. SUTTON, M.D., Elk Park, N. C., to Miss Margarite Turner of Rutherford, N. C., at Elizabethton, Tenn., October 25.

TIMOTHY G. HARRIMAN, M.D., Hampton, Iowa, to Miss Nancy Masters of Long Beach, Cal., at Council Bluffs, Iowa, October 27.

EUGENE H. MULLAN, M.D., assistant surgeon, United States Public Health and Marine-Hospital Service, to Miss Eleanor V. Gildea, at Baltimore, November 4.

Deaths

John R. Buist, M.D. New York University, New York City, 1857, a member of the American Medical Association, one of the oldest and most prominent practitioners of Nashville, Tenn., and closely identified with the history of that city; for many years a member of the local and State Board of Health, regimental and brigade surgeon in the Confederate service during the Civil War, died at his home in Nashville, October 24, eight weeks after an operation performed in Rochester, Minn., aged 71. His last work was a paper on water filtration based on a study of the plant at St. Louis, which was submitted to the board of health the day before he died. In addition to his active interest in matters medical, he kept up with the times in public affairs, political, social and economic. In a special message to the city council Mayor Morris announced the death of Dr. Buist, and recommended that the council should make some recognition of his life and valuable public service.

Everett Van Buren, M.D. Rush Medical College, Chicago, 1869, formerly of Hooper, Dodge County, Neb., surgeon of the Eighth United States Colored Heavy Artillery, of the One Hundred and Forty-seventh Illinois Volunteer Infantry, and later in charge of the First Brigade Hospital, Second Division of the Army of the Cumberland in the Civil War; for six years a member of the Fremont (Neb.) city council; once vice-president of the Nebraska State Medical Society; twice coroner of Dodge County, Neb., and president of the city council of Hooper, died at the Soldiers' Home, Grand Island, Neb., October 28.

James Duane Featherstonehaugh, M.D. College of Physicians and Surgeons in the City of New York, 1870, member of the Medical Society of the State of New York, and member and once president of the Albany County Medical Society; sometime health officer and member of the board of education of Cohoes, N. Y., and surgeon to the Cohoes Hospital, died at his home in that city October 21, after an illness of a year, from malignant disease of the prostate gland, aged 60. The physicians of Cohoes, and the Albany County Medical Society, at special meetings, passed resolutions of eulogy and regard.

Edward Shelby Rauch, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1904, one of the most promising young physicians of Vicksburg, Miss., died at his rooms in the Vicksburg Infirmary from yellow fever October 20, aged 23. When yellow fever broke out at Hamburg, Miss., Dr. Rauch, believing himself immune, as he had had the disease in 1897, volunteered to aid the stricken community. After a short time, however, he was taken down with the disease, whose ravages he was not able to withstand..

Alfred Holmes Simpson, M.D. Manitoba Medical College, Winnipeg, 1894, chairman of the provincial board of health of Manitoba and professor of materia medica and therapeutics in Manitoba Medical College until compelled to resign by reason of ill-health, died at his home in Salmon Arm, B. C., October 25, aged 36.

Albert E. Warren, M.D. University of Buffalo (N. Y.) Medical Department, 1891, of Youngstown, Ohio, while despondent and suffering from renal lithiasis, for which he had undergone two operations, shot and killed himself at his father's house in Buffalo, N. Y., October 6, aged 36.

Samuel Y. Thompson, M.D. Long Island College Hospital, Brooklyn, N. Y., 1866, several times burgess of Danville, Pa., and associate judge of the Montour County Court, died suddenly at his home in Danville while writing a prescription, October 28, from heart disease, aged 62.

William C. Arens, M.D. Cincinnati, 1874, of Hudson, Wis., arrested at Colorado Springs, and under sentence of imprisonment for six years in the Minnesota state penitentiary, Stillwater, for bigamy and grand larceny, shot and killed himself in the jail at Aitkin, Minn., October 21.

Charles Edward Dever, M.D. University of Maryland School of Medicine, Baltimore, 1891, a member of the Massachusetts Medical Society and of the Lynn Medical Society, died at his home in Lynn, Mass., October 24, from cerebral hemorrhage, after an illness of thirty-six hours, aged 43.

John A. Richardson, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1884, of Ben Franklin, Texas, was shot and instantly killed in an altercation with a restaurant keeper in Paris, Texas, October 25, aged 45.

Orrin Witter, M.D. College of Physicians and Surgeons in the City of New York, 1859, representative in 1875 from his town in the General Assembly, died suddenly at his home in Chaplin, Conn., from heart disease, October 13, aged 69.

William Titus, M.D. Jefferson Medical College, Philadelphia, some-time health officer of Newark, N. J., and local surgeon for the Lackawanna Railroad, died at his home in Newark from cerebral hemorrhage October 28, aged 60.

Francena E. Porter, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1864, formerly of Worcester, Mass., died at her home in Reading Center, Mass., October 22, from heart disease, after an illness of eight years.

J. Frank Williams, M.D. Jefferson Medical College, Philadelphia, 1888, formerly of Pittsburg and Greensburg, Pa., but for three years a resident of Detroit, was struck by a train and killed near Baden, Pa., September 30, aged 42.

Anne Ceredwen Rose, M.D. Woman's Medical College of the New York Infirmary, New York City, 1898, died at her home in Union Hill, Weehawken, N. J., October 24, from double lobar pneumonia, after a short illness, aged 29.

Eleanor Chestnut, M.D. Northwestern University Woman's Medical School, Chicago, 1893, of Chicago, a missionary of the Presbyterian board in Lienchow, China, was murdered at that place October 28 by a mob in a riot.

Zachary T. Young, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1872, was shot and killed in a pistol duel with a son of a fellow-practitioner, at his home in Ville Platte, La., October 5, aged 56.

Robert J. Cummer, M.D. Cleveland Medical College Medical Department of Western Reserve University, 1890, died at his home in Cleveland October 22 from typhoid fever, after an illness of two weeks, aged 52.

George W. Emerson, M.D. Bellevue Hospital Medical College, New York City, 1864, died at his home in Webster, Mass., October 9, from degenerative spinal disease, after an illness of five years, aged 74.

James E. Miller, M.D. Bellevue Hospital Medical College, New York City, 1885, of Fort Wayne, Ind., died in St. Vincent's Hospital, Indianapolis, October 30, two days after an operation, aged 50.

James Gates Adams, M.D. University of Louisville (Ky.) Medical Department, 1882, died at his home in El Paso, Texas, October 22, from cerebral hemorrhage, after an illness of four days, aged 71.

Arthur Meriden Patterson, M.D. Ohio, 1895, of Westerville, Ohio, died at his father's home near Africa, Ohio, October 26, from laryngeal tuberculosis, after an illness of two years, aged 37.

William A. Blakeley, M.D. St. Louis College of Physicians and Surgeons, 1896, died at his home in Higginsville, Mo., October 16, from typhoid fever, after an illness of five weeks.

Thomas W. Royston, M.D. St. Louis Medical College, 1872, died at his home in Round Rock, Texas, October 25, from kidney disease, after a prolonged illness, aged 92.

Conrad Henry Diaz, M.D. University of Berlin, Germany, 1853, died at his home in Nauvoo, Ill., October 21, from senile debility, after an illness of two weeks, aged 78.

Noah K. Williams, M.D. Kentucky School of Medicine, Louisville, 1889, died recently at his home in Catlettsburg, Ky., from cerebral hemorrhage and was buried October 3.

Henry Clarke Walton, M.D. Medical College of Georgia, Augusta, 1875, died at his home at Metasville, Ga., October 21, after a short illness, aged 52.

James W. Chesney, M.D. College of Physicians and Surgeons, Baltimore, 1884, died at his home in Fairmont, W. Va., October 28, from angina pectoris.

Thomas Arthur Wright, M.D. Cincinnati, 1867, died suddenly at his home in Americus, Ky., September 28, from cerebral hemorrhage, aged 64.

William J. Ward, M.D. Missouri, 1876, died at his home in Gilman, Iowa, October 4, from gastric ulcer, after an illness of six days, aged 59.

S. Gertrude Norris, M.D. Cincinnati, 1891, died at her home in Lansing, Mich., October 18, from nephritis, aged 53.

John Bryan, M.D. Ohio, 1866, died at his home in Beaver Falls, Pa., October 17, from senile debility, aged 78.

Samuel H. Wright, M.D. Geneva (N. Y.) Medical College, 1868, of Jerusalem, N. Y., died at Syracuse, N. Y., October 7, aged 90.

Franklin Shreve, M.D. Cincinnati, 1881, died at his home in Sioux Falls, S. D., October 23, after a long illness.

Deaths Abroad.

H. Schaper, M.D., for twelve years the medical superintendent of the great Berlin Charité Hospital, died October 1, aged 64. He was an army medical officer of high rank and won great distinction by his able administration of the hospital, and as member of the Imperial Board of Health, and chairman of the testing department of the pure food commission. His experience at the Charité rendered him an authority on hospital and sanitarium construction, so that his advice was sought in nearly every undertaking of the kind. He resigned his position last year on account of ill health.

R. Rego, M.D., member of the German privy council, died at Berlin October 17, aged 71. He had long been a pioneer in matters affecting the organization of the profession, and for several years had served as a member of the city council.

E. Burckhardt, M.D., professor of surgery at Basle, died October 1, aged 52. He was an enthusiastic student of urology in relation to surgery, and published numerous works on this subject.

K. Grunert, M.D., professor of otology at Halle, died September 23, aged 38.

Miscellany

Protest Against Declaration of Diseases by Physician.—Nigay, in a signed editorial in the *Jour. de Méd. de Paris*, reviews the statistics of the notifiable diseases in France. They show that the compulsory declaration is too often a farce. The number of known cases far exceeds the number declared to the authorities. Only 37 cases of puerperal infection and 44 cases of purulent ophthalmia were declared by physicians throughout France during 1904. He proposes a radical reform —abolishing any specific declaration by the physician, but imposing on him the responsibility for all disinfections. Professional secrecy should be respected and its scope broadened, but the disinfection service should be placed entirely in his charge, to apply or not for special cases as he saw fit, doing the disinfecting himself or having it done by subordinates. The only record that he would have to turn in to the authorities would be that of the number of disinfections done day by day.

Cold Applications Better than Alcohol as Cardiac Stimulant.—The cold compress applied over the cardiac area of the chest may well replace alcohol as a heart tonic. The thing necessary to encourage the heart's action is not mere relaxation of the peripheral vessels, but, as Winternitz has shown, increased activity of the peripheral circulation in the skin, muscles and elsewhere. Alcohol paralyses the vasoconstrictors, and so dilates the small vessels and lessens the resistance to the heart action; at the same time it lessens the energy of the nerve centers which control the heart, diminishes the power of the heart muscles, and lessens that rhythmical activity of the small vessels whereby the circulation is so efficiently aided at that portion of the blood circuit most remote from the heart. A cold application to that portion of the chest overlying the heart reflexly stimulates and energizes the heart through the cardiac nerves. This reflex action is not confined to the heart muscle; the stimulation of the activity of the cardiac vessels improves the circulation through the heart structure, refreshing and energizing it in the same manner in which a voluntary muscle is energized by a cold application, as is well shown by the ergograph.—Kellogg in *Lancet-Clinic*.

Teaching Physical Curative Measures at Medical Colleges.—Prof. W. Winternitz of Vienna contributed an article on this subject to the Congress of Physiotherapy, held at Liège last summer. He urges that physiotherapy should be an obligatory course in medical colleges, and that it should be taught clinically, not theoretically alone nor practically alone, but at the bedside, in a well-equipped clinic. The nutritional disturbance presented by the patient should first be exactly differentiated and the deviations from normal fully determined. The more exactly the nutritional disturbance is understood the clearer the indications for treatment. The test of its success will be the therapeutic experiment. The plan of treatment outlined to the students is then applied under their eyes. Successes and failures are watched, and the action of the physical measures on the innervation, circulation, blood pressure, metabolism, secretions and excretions, increase or decrease in oxidations, elimination of toxins and of morbid products, changes in the morphology and chemistry of the blood, etc., are demonstrated before the eyes of the students as the necessary consequences of the correctly dosed thermic and mechanical interventions. The young physician will then become familiar with the mode of application and of the action of these powerful curative forces, and the limitations of their field of action. The professor should be a trained clinician, convinced of the value of physiotherapy, and one semester of the obligatory internal clinic should include a course devoted to physical therapeutics.

Massage by the Blind.—In a paper read before the New York Academy of Medicine, Dr. M. B. Cotter said, according to the *Medical News*, that for several centuries the Japanese have employed blind persons to give massage and with great success. The result of this system is that massage is very well done at a comparatively cheap rate in Japan, and, as a consequence, even the poor have the opportunity to take advantage of its curative effects. The government protects the blind in their avocation from being imposed on, and thus a class of people that otherwise would be a charge on the community becomes a very useful and self-supporting element. It is easy to understand that a blind masseur or masseuse would be more acceptable for people of delicate sensibilities than a seeing one. As a rule, the blind themselves enjoy better health as a result of the exercise they obtain, and as a consequence of the interest in life aroused by a constant money-making occupation. The only place in Europe in which massage is extensively carried out by the blind is in St. Petersburg. The first teacher of it was a medical student, who became blind just before graduating. There the experience is that the blind learn rapidly, especially if the pupils are selected with the definite idea of taking only those who show special talent. It is considered that two years are needed for the proper study of anatomy and physiology in connection with massage. After graduation the students are able to find a reasonable amount of work and make a successful living. In Sweden, the home of massage, an attempt to teach the blind failed. The reason for this was said to be the absence of books with raised letters, out of which principles of anatomy and physiology might be learned. In France the blind have been used, not extensively, yet with some success. In Brussels there is a free school for the teaching of the practice of massage for the blind. In Denmark a ten-months' course is considered sufficient to prepare the blind for massage, and a reasonable amount of success has been met with in the teaching. At Brünn, in Austria, there is a successful school for the teaching of massage to the blind. The only place in Germany where a special effort has been made in this direction is at Leipsig, and here a certain amount of success has been obtained. In Philadelphia excellent work has been done in connection with the Pennsylvania Institution for the Blind at Overbrook. About a dozen graduates are making a good living out of the profession of masseur. In this country very few of the blind are self-supporting. A certain allowance is made to all blind persons by many of the states in certain cities. If this occupation could be opened up to them, a great benefit would be conferred on them, and, at the same time, massage would be made available for many more patients than at present. Dr. Charles H. Lewis said that it not infrequently happens that patients who need massage do not have it because of the expense attached to it. Many patients, for example, convalescent from typhoid fever, would reacquire their muscular energy much sooner if given massage. Few use it, however, because of the expense attached to it, in considering the large bill for medical attendance that is likely to accumulate. For many other conditions in which there is relaxation of muscular tissue, as after intestinal toxemias.

massage would add to the speed of recovery. In such conditions as pseudoparesis and in the various forms of hysterical paralysis massage would often be of the very greatest service. Always it is the expense attached to it that constitutes the main objection against its employment.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CURES AT LOURDES.

——— ———, Oct. 26, 1905.

To the Editor:—Accounts of "Cures at Lourdes" are printed in Catholic papers, the *True Voice*, Omaha, *Catholic Standard and Times*, Philadelphia, and four or five times a year the same wonderful cures are printed. Is this a pious fraud or is it printed as facts, and do Catholics, as a rule, believe in such reports? Y.

ANSWER: We believe that many, if not the majority of intelligent Catholics estimate the cures of Lourdes very much as most intelligent Protestants do those of the numerous faith cures which have thrived from time to time in Protestant communities. Of course there is a certain class of people in all communions who accept them as implicitly as do the Dowieites, Eddyites, etc., the cures they report. We do not believe, however, it is an essential matter of faith, outside of these sects, to believe in modern miraculous cures of organic physical disease. The rationale of many cures in other than organic diseases is fairly well understood. The action of the Paris specialists in declining to give an opinion does not seem to us like a recognition of a supernatural fact, but rather as a declination to subject themselves to the possibility of unprofitable and annoying controversy.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending November 4.

Chidester, Walter C., asst. surg., granted leave of absence for ten days.

Woodall, Wm. P., asst.-surgeon, granted thirty days' sick leave.

Dutcher, Basil H., asst.-surg., ordered to sail for Philippine service, Jan. 5, 1906, instead of Dec. 5, 1905; granted leave of absence to include December 29.

Raymond, Thomas U., surgeon, leave of absence granted for two months.

Cowper, Harold W., asst. surg., sick leave of absence extended one month.

Robbins, Chandler P., asst.-surgeon, leave of absence granted for one month, ten days.

Williams, Allie W., asst.-surgeon, leave of absence granted for one month, ten days.

Crosby, Wm. D., surgeon, granted two months' leave of absence, to take effect on being relieved from duty in the Philippines Division, and is authorized to visit Japan.

Raymond, Thomas U., surgeon, left Fort Assiniboine, Mont., on ten days' leave.

Crampton, Louis W., deputy surgeon general, granted fifteen days' leave of absence.

Lambert, Samuel E., asst.-surgeon, granted three months' leave on being relieved from duty in the Philippines Division, with permission to return to the United States via Europe.

Morse, Chas. F., asst.-surgeon, granted three months' leave of absence on being relieved from duty in the Philippines Division, with permission to return to the United States via Europe.

White, J. Samuel, contract surgeon, left Fort Snelling, Minn., on leave of absence for two months.

Hays, Mellville A., contract surgeon, left Vancouver Barracks, Wash., for temporary duty at Fort Wright, Wash.

Warwick, Clarence A., contract surgeon, arrived at Fort Mott, N. J., for duty.

Wythe, Stephen, contract surgeon, order for Philippine service revoked.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending November 4:

Huntington, E. O., surgeon, detached from the Navy Department and ordered home to wait orders.

Campbell, R. A., acting asst.-surgeon, detached from duty with Naval Recruiting Party No. 5, November 13, and ordered to the Naval Recruiting Rendezvous, Cincinnati.

Angeny, G. L., surgeon, commissioned surgeon with rank of lieutenant commander from April 24, 1905.

Munson, F. M., asst.-surgeon, ordered to the *Lancaster*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 1:

Carmichael, D. A., surgeon, granted leave of absence for seventeen days from November 14.

Wasdin, E., surgeon, to rejoin station at Memphis, Tenn.

Magruder, G. M., surgeon, to appear before a board for physical examination, November 11, under the provisions of Paragraph 50 of the Regulations.

Guiteras, G. M., surgeon, to rejoin station at Cairo, Ill.

Gardner, C. H., P. A. surgeon, granted leave of absence for one month from November 1.

Wickes, H. W., P. A. surgeon, granted extension of leave of absence for two days, from October 28.

Greene, J. B., P. A. surgeon, to rejoin station at Fort Stanton, N. M.

Lavinder, C. H., P. A. surgeon, to rejoin station at Stapleton, N. Y.

Lavinder, C. H., P. A. surgeon, granted leave of absence for four days en route from New Orleans to New York.

Lavinder, C. H., P. A. surgeon, to report at Bureau en route to New York.

McMullen, John, P. A. surgeon, to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

McMullen John, P. A. surgeon, to rejoin station at Ellis Island, N. Y.

Fricks, L. D., P. A. surgeon, relieved from duty at Castries, St. Lucia, and directed to proceed to New York, N. Y., reporting arrival by wire.

Glover, M. W., P. A. surgeon, leave of absence granted him for three days from October 15, amended to read two days only.

Ward, W. K., asst.-surgeon, relieved from duty at Bridgetown, Barbadoes, and directed to proceed to New York, reporting arrival by wire.

Collins, George L., asst.-surgeon, granted leave of absence for sixteen days from October 31.

Ebert, H. G., to rejoin station at Fort Stanton, N. M.

Smith, F. C., asst.-surgeon, to rejoin station at Detroit.

Steger, E. M., asst.-surgeon, to rejoin station at Philadelphia.

Ashford, F. A., asst.-surgeon, to rejoin station at Ellis Island, N. Y., reporting at bureau en route.

McKeon, F. H., assistant surgeon, to rejoin station in New Orleans.

Frost, W. H., asst.-surgeon, to rejoin station in Baltimore.

Mullan, E. H., asst.-surgeon, to rejoin station at Ellis Island, N. Y.

Guthrie, M. C., asst.-surgeon, to proceed to Cape Fear quarantine station, reporting to the medical officer in command for duty.

Duke, B. F., acting asst.-surgeon, granted fourteen days' leave of absence on account of sickness, from October 7.

Rice, W. E., acting asst.-surgeon, granted leave of absence for seven days.

Safford, M. V., acting asst.-surgeon, granted two days' leave of absence under paragraph 210 of the regulations.

Walker, R. T., acting asst.-surgeon, granted leave of absence for five days, from November 12.

Mason, M. R., pharmacist, granted leave of absence for seven days, from October 28.

Gibson, F. L., pharmacist, to rejoin station at San Francisco, on completion of duty at Lewis & Clark Exposition at Portland, Ore.

Morris, G. H., pharmacist, to rejoin station at St. Louis.

Steras, C. O., pharmacist, to proceed to Boston, and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENT.

C. O. Steras appointed pharmacist of the third class.

BOARD CONVENED.

A board of officers is to meet at Angel Island, Cal., November 11, to determine the physical condition of Surgeon G. M. Magruder, under provisions of paragraph 50 of the regulations. P. A. Surgeon H. S. Cumming, chairman; P. A. Surgeon F. E. Trotter, recorder. October 28.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the surgeon general, Public Health and Marine-Hospital Service, during the period from October 20 to November 4:

SMALLPOX—UNITED STATES.

California: Los Angeles, Oct. 14-21, 2 cases; San Francisco, 3 cases.
District of Columbia: Washington, Oct. 21-28, 3 cases, 1 death.
Illinois: Chicago, Oct. 21-28, 2 cases; Galesburg, Oct. 16-23, 3 cases, 2 deaths.
Michigan: Kalamazoo, Oct. 21-28, 1 case.
Ohio: Cincinnati, Oct. 13-27, 7 cases.
Washington: Seattle, Oct. 7-14, 1 case; Tacoma, Oct. 14-21, 2 cases.
Wisconsin: Milwaukee, Oct. 21-28, 1 case.

SMALLPOX—FOREIGN.

Azores Islands: St. Michael's, Sept. 16-Oct. 4, 7 cases.
Brazil: Bahia, Sept. 23-30, 1 case; Pernambuco, Sept. 1-15, 231 deaths.
Canada: Toronto: Sept. 23-Oct. 21, 15 cases.
China: Hongkong, Sept. 8-16, 1 case.
Ecuador: Guayaquil, Sept. 21-Oct. 3, 10 cases.
France: Paris, Sept. 23-Oct. 4, 28 cases, 5 deaths.
Great Britain: Liverpool, Oct. 7-14, 2 cases.
India: Calcutta, Oct. 8-22, 4 deaths; Madras, Sept. 16-29, 19 deaths.
Italy: General, Sept. 23-Oct. 5, 10 cases.
Russia: Odessa, Sept. 23-Oct. 7, 12 cases, 4 deaths.
Spain: Barcelona, Oct. 1-10, 1 death: Cadiz, Sept. 1-30, 3 cases.
Uruguay: Montevideo, Aug. 1-30, 8 deaths.

YELLOW FEVER—UNITED STATES.

Alabama: Castleberry, Oct. 15, 2 cases, 2 deaths.
Florida: Pensacola, Aug. 29-Oct. 30, 538 cases, 77 deaths.
Louisiana: Ascension Parish: to Oct. 19, 80 cases, 3 deaths; Assumption Parish, to Oct. 16, 48 cases, 2 deaths; Avoyelles Parish, to Oct. 28; 14 cases, 2 deaths; East Carroll Parish, to Oct. 18, 241 cases, 41 deaths; Iberia Parish, to Oct. 13, 14 cases, 1 death; Iberville Parish, to Oct. 13, 24 cases, 8 deaths; Jefferson Parish, to Oct. 28; 506 cases, 55 deaths; Lafourche Parish, to Oct. 19, 424 cases, 55 deaths; Madison Parish, to Oct. 28, 344 cases, 10 deaths; Natchitoches Parish, to Oct. 28, 83 cases, 7 deaths; St. Mary

Parish, to Oct. 21, 845 cases, 36 deaths; Terrebonne Parish, to Oct. 28, 334 cases, 14 deaths.

Mississippi: Gulfport, Aug. 15-Oct. 28, 120 cases, 2 deaths; Flamburg, Sept. 15-Oct. 26, 50 cases, 8 deaths; Long Beach, Oct. 18, 1 case; Mississippi City, Aug. 22-Oct. 17, 71 cases; Natchez, to Oct. 26, 142 cases, 7 deaths; Port Gibson, Sept. 27-Oct. 24, 63 cases, 2 deaths; Rosetta, to Oct. 17, 32 cases, 7 deaths; Rozie (vicinity of), to Oct. 26, 16 cases, 1 death; Vicksburg and vicinity, Aug. 30-Oct. 30, 176 cases, 26 deaths.

Ohio: Cincinnati, Sept. 15-19, 3 cases.

YELLOW FEVER—FOREIGN.

Cuba: Habana, Oct. 16, 1 case, on S. S. *Vigilancia*.

Ecuador: Guayaquil, Sept. 28-Oct. 3, 1 death.

Guatemala: Livingston, Oct. 18, 1 case.

Honduras: Cholomo, Oct. 3-17, 3 cases, 1 death; Puerto Cortez, Sept. 26-Oct. 3, 1 death; San Pedro, Oct. 3-17, 5 cases.

Mexico: Omealca, Oct. 8-21, 12 cases, 1 death; Soconusco, 3 cases, 2 deaths; Tuxtepec, Oct. 8-21, 19 cases, 9 deaths; Vera Cruz, 5 cases, 5 deaths.

Panama: Colon, Oct. 4, 1 case removed from Matachin; Bocas del Toro, Oct. 6, 1 case.

CHOLERA—INSULAR.

Philippine Islands: Laguna province, Sept. 8-16, present in two localities; Manila: Sept. 8-23, 32 cases, 31 deaths; Rizal Province, Sept. 8-16, present in 8 localities.

CHOLERA—FOREIGN.

India: Bombay, Sept. 19-Oct. 3, 4 deaths; Calcutta, Sept. 9-23, 75 deaths; Madras, Sept. 16-29, 349 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Oct. 23-24, 3 deaths.

Philippine Islands: Manila, Sept. 16-23, 1 case, 1 death.

PLAGUE—FOREIGN.

Argentina: Choya, Sept. 10, 9, recrudescence.

Australia: Townsville, Sept. 8-16, 2 cases, 2 deaths.

China: Hongkong, Sept. 9-23, 1 case, 2 deaths; Manchuria, Oct. 4, present; Niuchwang, Oct. 17, 3 deaths.

India: General, Sept. 2-9, 3,439 cases, 2,482 deaths; Bombay, Sept. 9-23, 72 deaths; Karachi, Sept. 17-Oct. 1, 33 cases, 32 deaths.

Peru: Lima, Sept. 11-29, 8 cases, 1 death; Payta, 6 cases, 3 deaths; Mollendo, 1 death.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.

American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

MEDICAL SOCIETY OF VIRGINIA.

Thirty-sixth Annual Session, held in Norfolk, Oct. 24-27, 1905.

The President, DR. WM. S. CHRISTIAN, Urbanna, in the Chair.

A brief address of welcome was delivered by Judge D. Tucker Brooke, which was responded to by Dr. Lewis G. Pedigo, Leatherwood, for the society.

The Line of Least Resistance.

DR. PAUL B. BARRINGER, Charlottesville, chairman of the faculty of the University of Virginia, delivered an address on some of the adverse conditions which confront a medical man in the practice of his profession. He said it is well known in the profession that a physician can not do his best work when unusual influences and disturbing factors are around him, and that this was one of the reasons operating against those who, like President Garfield or President McKinley, were treated, so to speak, in the light of public gaze. Under such conditions a physician may lose his nerve under his sense of responsibility. The chances of the pauper picked up on the street and carried to the hospital for immediate operation are, therefore, better than those of the more prominent man. He suggested that it is much better for the friends of the patient to refrain from asking questions until the doctor is ready to give information. In families of physicians little medicine is usually administered and nothing is ever done until an accurate diagnosis has been made. He alluded to the imperative duty resting on the physician to report to the local board of health any cases of communicable disease and commented on the warning that may be seen in the experience in New Orleans with yellow fever. With the advanced knowledge of the present day there should never be a return of the plagues which, in past history, have devastated continents.

The Country Doctor.

DR. WILLIAM S. CHRISTIAN, Urbanna, the president, in his annual address, stated that he had been a country doctor for fifty-four years, that the country practitioner must be a good all-around man, a good student of human nature and acquainted with the inner life and characteristics of his people. He treats all classes of cases and many diseases which, in cities, would be divided up among several classes of specialists. He maintained that, in ordinary diseases, the country doctor is more accurate in diagnosis than his city brother, that he has more time for this work and that, being his own apothecary, he can compound his prescriptions, administer them to the patients and observe the results. The life of the country doctor is full of hard and laborious toil, but, although he is the most poorly paid man in the world, he finds a rich reward in the love of his people.

Nephritis.

The medical aspect of nephritis was discussed by Dr. James S. Irwin, Danville, and the surgical aspect by Dr. Hugh M. Taylor, Richmond. The fact most clearly brought out in the papers and discussion was the curability of nephritis; that if the disease be taken in its earliest stages, the patient stands a good chance of recovery. Much progress has been made in the treatment of the disease, and individual symptoms are now receiving more attention than heretofore.

Bubonic Plague.

DR. THOMAS R. MARSHALL, Bedford City, late chief health inspector of the Philippine Islands, and a member of the board of health of the Philippine Islands and the city of Manila, who is now in the United States on leave, read an important paper on bubonic plague, in which he stated that the spread of the plague could be controlled by a system of inoculation. In the Philippines 30,000 persons have been immunized by the prophylactic serum manufactured in the government laboratory at Manila, and none of these persons has contracted the disease, although exposed to it after immunization.

Admission of Non-graduate Practitioners.

A considerable discussion arose on the question of the admission of practicing physicians of the state who did not possess diplomas from recognized medical colleges. During, and just after the Civil War, when it was extremely difficult to secure a college medical education, a number of men studied medicine under recognized practitioners and are now permitted to practice, although holding no diplomas, and are rated among the best regular and general practitioners of the state. Several of these men have applied for membership in the society, the laws of which provide, as a requisite for membership, that an applicant must be a graduate of a reputable school of medicine. The society, however, by an overwhelming majority, agreed to suspend the rules and to admit all such practitioners.

Asks Repeal of State Tax.

The society decided to petition the legislature to repeal the state license fee of $10 which is now imposed on physicians.

Entertainment.

The social features of the convention were a banquet on the first day for the members of the society; a trip on the steamship *Pennsylvania* around the harbor on the second day; at the close of the convention a trip to Cape Henry and an oyster roast, and, in addition, a number of private entertainments and receptions by the local profession.

Election of Officers.

The following officers were elected: President, Dr. Lomax Gwathmey, Norfolk; vice-presidents, Drs. S. T. Anderson Kent, Ingram; Greer Baughman, Richmond, and Tunis C. Quick, Falls Church; recording secretary, Dr. Landon B. Edwards, Richmond (re-elected); corresponding secretary, Dr. John F. Winn, Richmond (re-elected); treasurer, Dr. Robert M. Slaughter, Theological Seminary; executive committee, Drs. Paulus A. Irving, Moses D. Hoge and Clifton M. Miller, Richmond; William F. Drewry, Petersburg, and Frank H. Hancock, Norfolk; state medical board—first district, Dr. Willard B. Robinson, Rappahannock; second district, Dr. Herbert M. Nash, Norfolk; third district, Dr. Junius E. Warinner, Brook Hill; fourth district, Dr. William W. Wilkinson, La Crosse; fifth district, Dr. Richard S. Martin, Stuart; sixth district, Dr. Samuel Lile, Lynchburg; seventh district, Dr. Robert C. Randolph, Boyce; eighth district, Dr. Robert M. Slaughter, Theological Seminary;

ninth district, Dr. Elliott T. Brady, Abingdon; tenth district, Dr. Charles W. Rodgers, Staunton; at large, Drs. Rawley W. Martin, Lynchburg; A. S. Priddy, Bristol, and R. Bruce James, Danville; delegate to American Medical Association, Dr. William E. Anderson, Farmville; honorary fellows, Drs. William S. Christian, Urbana, and Robert G. Halloway, Port Royal; non-resident honorary fellow, Dr. George Tully Vaughan, assistant surgeon general United States Public Health and Marine-Hospital Service, Washington, D. C.

Charlottesville was selected as the next place of meeting.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Sept. 7, 1905.

DR. WILMER KRUSEN in the Chair.

Mercurialism from Bichlorid Douche.

DR. FRANK C. HAMMOND reported a number of cases, in one of which severe mercurialism occurred, due to excessive use of very strong bichlorid vaginal douches given to produce an abortion. The uterus was curetted for incomplete abortion. During the first six days, after symptoms of mercurialism appeared, only five ounces of urine were secreted, secured by catheterization.

DISCUSSION.

DR. J. W. WEST said that it is of the greatest importance in the treatment of obstetric cases, in which one is dependent on untrained nurses, to give careful instructions about all douches and enemata that are to be used. He recalled two experiences where untrained nurses substituted 1/1000 bichlorid solution for soap and water for rectal injections. One of the women was so desperately ill for a number of days that her life was despaired of, although there was ultimate recovery. These experiences led him to emphasize that we can not be too careful about instructions when having untrained assistants.

Aseptic Management of the Umbilical Cord.

DR. J. THOMPSON SCHELL advocated the method of Dr. Dickinson of Brooklyn and Dr. C. S. Bacon of Chicago, as follows: When the child is delivered a hemostat is placed on the cord three inches from the abdominal wall and a second hemostat about one inch from the first, and the cord severed between. The child is laid to one side, wrapped in its receiving blanket, while the placenta is delivered and the mother attended to. The attention is now directed to the child and the cord is amputated as follows: Grasp the hemostat forceps in one hand and with a sharp-pointed scissors the cord is severed at its skin-amniotic junction and the amniotic covering and Wharton's jelly is then separated from the vessel of the cord by stripping them back with a piece of gauze in a direction away from the abdominal wall. The vessels are now ligated with a piece of No. 0 sterile catgut and the cord is dusted with an antiseptic powder. The baby is not placed in the tub for about ten days. Dr. Schell has never had a case of umbilical hernia in babies on which the cord has been tied off in this way. The hernias he has seen have occurred in children who have been sick after delivery with marasmus, pneumonia, or some illness causing them to cry. In these cases hernia would probably have resulted without regard to the method of treating the stump. Hernias occur less often with this method than with the older ones. The ring is stronger when it is clean than when infected. He has nipped the vessels several times, but has never had any trouble. Although they would bleed for a moment the bleeding was so slight that he did not put a ligature around the vessels, except as a precautionary measure. He has never seen hemorrhage that he would call frightful. In making this incision he has cut the vessels a number of times, but has never had any trouble. He simply throws the ligature a little further back. The only bad case of hemorrhage occurred on the eighth day. There was a polypoid-like growth on the end of stump and the vessels must have bled from that and insertion of pins was necessary. Recovery finally ensued, but later symptoms of general infection set in. Many obscure illnesses in young infants probably result from an infected stump, and childbed fever in the mother may be traced to the same source.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Arteriosclerosis.

Professor Romberg, in the *Deutsche medizinische Wochenschrift*, in an article on the treatment of this disease, says that when the heart is mainly affected the coronary vessels may be the first to become sclerosed, and this may give rise to definite symptoms of cardiac insufficiency. The old remedy for this was digitalis which, of course, should not be given in cases in which there is actual or threatened hemorrhage. Sawada, however, has shown that in cases of arteriosclerosis, without involvement of the kidneys, the arterial tension is not high, and digitalis in small doses may be given with good results. Groedel's method of giving 2 grains of freshly powdered digitalis leaves once or twice a day for a prolonged period is particularly recommended. For long continued use strophanthus may also be of value. In plethoric individuals it is better to follow Huchard's advice and to enjoin strict milk diet for five days, combined with the use of digitalis. In angina pectoris digitalis is indicated only in the slight cases in which cardiac weakness is obvious between the attacks. In severe cases with normal cardiac power it is useless. In cardiac asthma, especially nocturnal, a narcotic with camphor or caffein is recommended, but morphin is contraindicated in angina pectoris. The author has found the inhalation of amyl nitrite of little use in severe cases. When cardiac weakness from coronary sclerosis is combined with abdominal plethora the arterial pressure is often raised. In such cases purgation is valuable. When the kidneys are affected early, severe and sudden breathlessness is often a conspicuous sign; the pulse tension is increased, and if the heart is feeble the amount of urine is normal or diminished. Here also the indications are for general depletion and cardiac tonics. Digitalis must be used with the utmost caution, as in severe cases it may even reduce the arterial tension. Any heart weakening procedures, such as powerful diaphoresis or an exclusively milk diet, are to be avoided.

When the cerebrum is mainly affected there are certain functional cerebral manifestations apart from hemorrhage and from thrombosis, which betoken intracranial arteriosclerosis. These are more especially a sense of weight in the head, a feeling of precordial oppression and sleeplessness; there may also be slight vertigo, tinnitus, and gastrointestinal disturbance. The patients are often irritable and excitable, while their mental acumen and memory for recent events diminishes. The onset of these neurasthenic symptoms after the age of 40, and especially of 50, should be regarded with suspicion. Special points in the treatment are removal from customary surroundings, attention to the digestion, frequent nourishment and the consumption of a considerable quantity of water. This last remedy lessens discomfort and helps sleep. Gastrointestinal symptoms may occur in severe paroxysms, which yield best to atropin. Vascular neuroses of various types are common complications. The first indication is to reduce the vascular excitability; this is best done by the mild local baths recommended by Erb. Excitant baths are inadvisable. The best drugs are quinin, potassium bromid and valerian.

For the general treatment of arteriosclerosis Romberg states that the best remedy is potassium iodid, which he believes acts by reducing the viscosity of the blood and so lessens the work to be done by the vascular system. It is not to be given when there is edema of the lungs or when the arteriosclerosis is complicated by Graves' disease. It should be administered to the extent of not more than 15 grains a day, in five doses, and its use should extend, with intermissions, over two or three years.

In order to minimize gastric disturbance it can be given

with sodium bicarbonate, and acid foods are to be avoided. For cerebral arteriosclerosis a mixture of sodium bicarbonate, sodium nitrite and potassium nitrite is recommended. Of great importance is the regulation of the patient's habits. Arteriosclerosis is regarded as a nutritional affection of the vessel wall resulting from wear and tear; unless syphilis be present a direct remedial action of drugs on the process is not to be expected. It is essential, therefore, that any source of added strain on the vascular system be avoided. Hence, physiologic rest is indicated; obesity, for instance, should be reduced by diet and not by exercise. Sleep is also an important necessity and it may be advisable to give a hypnotic for three or four nights, after which natural repose is established. Indifferent and brine baths are useful, but must not be too hot nor too cold. The use of alcoholic liquors, tea, coffee and tobacco is to be restricted, though small quantities may be allowed as stimulants to the appetite. Abstinence from tobacco is compulsory in angina pectoris. With regard to diet, each case is treated individually, according to the state of nutrition and the condition of the alimentary canal; a mixed diet with very little condiment and not too much meat is generally advisable. Plenty of fluid should be taken, and sudden changes of diet avoided. The remedies for arteriosclerosis are essentially mild ones; the two chief lines of treatment to avoid are, on the one hand, a procrustean rule, and on the other, too frequent and fussy interference.

Exophthalmic Goiter.

Rudolf, in the *Dominion Medical Monthly*, discusses the medical treatment of this condition and states that the disease tends to recovery. In the absence of any specific treatment, he says, the following indications obtain and Nature is aided in her effort to overcome the disease:

1. To prevent the excessive production of thyroid secretion, or to neutralize the poisonous amount of it that is circulating in the blood.

2. To treat the symptoms as they arise.

To meet these indications the author summarizes his treatment as follows:

1. First and most important, the patient should be placed in a state of physical, mental and emotional rest. If the case be at all acute the patient would better be kept entirely recumbent, as the upright position will greatly hasten the heart's action. As a rule these patients do better away from home, either in a hospital or sanitarium. In some cases the strict régime of Weir Mitchell is advisable.

2. By careful dieting and in every way possible the general health should be raised; anemia, constipation and every other deviation from normal must be attended to. Very few patients with exophthalmic goiter die from the disease itself, death, when it occurs, being due to some intercurrent affection —hence the special need of looking after the general health. The climate at a moderate elevation seems to be specially beneficial, and such a location should be chosen whenever possible. Nothnagel considers "a sojourn in a place of moderate elevation as most important."

3. Various local applications may be employed, such as pressure to the thyroid gland, or a mild galvanic or faradic current, but probably the most valuable local treatment is application of cold to the thyroid gland or to the precordium, either in the form of an icebag or as Leiter's tubes. Such use of cold often greatly controls the rapid action of the heart.

4. Medicinal remedies will vary greatly with the physician, nearly every man has some remedy which he especially relies on; which fact proves what a secondary place all drugs take in the treatment of this condition. Rudolf gives a mixture of belladonna (from 10 to 15 minims of the tincture), thrice daily, combined with strontium bromid, and feels convinced that the patients soon feel very much more comfortable.

5. Any special symptom, such as threatened heart failure, urgent diarrhea, etc., must be met with appropriate remedies. Under such hygienic and medicinal treatment most patients will slowly improve, and some will completely recover. The majority, however, will retain some traces of the disease, such as cardiac irritability, general nervous instability and some exophthalmos. The disease is a prolonged one, and the patient requires much patience and all the encouragement that the attendant can give. The latter should resort to mental therapeutics as much as possible.

Gastralgia.

Shoemaker, in the *New York Medical Journal*, relates the following cases:

The patient had a history of frequent attacks of pain in the epigastrium, agonizing in character and reflected around the lower portion of the ribs. The seizure occurred more frequently when the stomach was empty and lasted for ten or fifteen minutes. The examination of the patient was negative except that the stigmata of hysteria were present. Dr. Shoemaker suggested hyoscin hydrobromid in 1/100 grain doses during the attack, though the drug was not to be given as a routine practice. In less severe attacks the following combination was advised:

℞.	Spts. chloroformi	℥iv	16
	Spts. ætheris compositi	℥vi	24
	Tinct. capsici	℥i	4
	Aquæ dest., q. s. ad	℥iii	90

M. Sig.: One teaspoonful in water every half-hour until relieved.

As the patient was anemic she was given the following for this and the general nervousness:

℞.	Ext. sumbul.	gr. xx	1.30
	Zinci valerianatis	gr. xxx	2
	Ferri reducti	gr. xx	1.30
	Ext. nux vom.	gr. vii	.5

M. Ft. cap. No. xx. Sig.: One capsule four times a day.

Medicolegal

Prescribing When Drunk.

Section 365 of Chapter 169 of the Laws of Indiana of 1905, an act concerning public offenses, provides that whoever, while in a state of intoxication, prescribes or administers any poison, drug or medicine to another, which endangers the life of such other person, shall, on conviction, be fined not less than $10 nor more than $100, and be imprisoned in the county jail not less than ten days nor more than three months.

Prescribing Secret Medicines.

Section 366 of Chapter 169 of the Laws of Indiana of 1905 provides that whoever prescribes any drug or medicine to another, the true nature and composition of which he does not, if inquired of, truly make known, but avows the same to be a secret medicine or composition, and thereby endangers the life of such other person, shall, on conviction, be fined not less than $30 nor more than $100, and be imprisoned in the county jail not less than sixty days nor more than six months.

To Instigate Masturbation Is Sodomy.

Section 473 of Chapter 169 of the Laws of Indiana of 1905 provides that whoever commits the abominable and detestable crime against nature with mankind or beast; or whoever entices, allures, instigates or aids any person under the age of 21 years to commit masturbation or self-pollution, shall be deemed guilty of sodomy, and, on conviction, shall be fined not less than $100 nor more than $1,000, to which may be added imprisonment in the state prison not less than two years nor more than fourteen years.

Prohibits Careless Distribution of Drugs.

Chapter 33 of the General Laws of Minnesota of 1905 provides, under penalty, that no person or persons, either directly or indirectly, by agent or otherwise, shall scatter, distribute or give away any samples of any medicine, drugs or medicinal compounds, salve or liniment of any kind unless the same is delivered into the hands of an adult person, or mailed to such persons through the regular mail service.

Wood Alcohol to be Specially Marked.

Chapter 35 of the General Laws of Minnesota of 1905 provides, under penalty, that no person, by himself, his servant or agent, or as the servant or agent of another person or per-

sons, shall sell, exchange, deliver or have in his custody or possession with intent to sell, exchange or deliver, or expose or offer for sale, exchange or delivery, any wood alcohol, or substance commonly known as wood alcohol, unless each package, bottle, cask, can or receptacle containing the said wood alcohol shall be plainly marked, stamped, branded or labeled on the outside and face of each package, bottle, cask, can or receptacle of the capacity of less than one gallon, in legible type not smaller than large primer, and on the outside and face of each package, bottle, cask, can or receptacle of the capacity of one gallon or more, in legible letters of not less than one inch in length, the letters and words "wood naphtha," "poison."

Soliciting and Advertising Abortifacients.

Section 368 of Chapter 169 of the Laws of Indiana of 1905 provides that every woman who shall solicit of any person any medicine, drug or substance or thing whatever, and shall take the same, or shall submit to any operation or other means whatever, with intent thereby to procure a miscarriage, except when done by a physician for the purpose of saving the life of mother or child shall, on conviction, be fined not less than $10 nor more than $500, and be imprisoned in the county jail not less than thirty days nor more than one year; and any person who, in any manner whatever, unlawfully aids or assists any such woman in the violation of this section shall be liable to the same penalty.

Section 465 provides that whoever prints or publishes any advertisement of any secret drug or nostrum purporting to be for the exclusive use of females, or which cautions females against their use when in a condition of pregnancy, or in any way publishes any account or description of any drug, medicine, instrument or apparatus for preventing conception or for procuring abortion or miscarriage, or sells or gives away, or keeps for sale or gratuitous distribution any newspaper, circular, pamphlet or book containing such advertisement, account or description, or any secret drug or nostrum purporting to be exclusively for the use of females, or for preventing conception or procuring abortion or miscarriage, shall be fined not less than $5 nor more than $500, to which may be added imprisonment in the county jail not less than ten days nor more than six months.

Restrictions on Sale and Prescription of Cocain.

Chapter 42 of the General Laws of Minnesota of 1905 provides that no person shall sell or give away any cocain, hydrochlorate or any salts or compound of cocain, or preparation containing cocain, except on the written prescription of a physician or dentist licensed under the laws of the state. No prescription containing cocain shall be filled more than once and each shall have written plainly on it the name and address of the patient and be filed and preserved by the pharmacist, who shall not give a copy thereof to the patient. This section shall not be so construed as to apply to sales at wholesale, in original packages, by any manufacturer or wholesale dealer, to a retail druggist, licensed physician or dentist when such vendor shall have affixed to each receptacle containing any such drug a label in the English language specifically setting forth the proportion of cocain contained therein.

Any person who shall sell or give away any of the articles mentioned in the preceding section, in violation of this act, and any person who shall prescribe any of such articles to any one addicted to the habitual use of cocain or any preparation or compound thereof in any form, shall be punished by a fine of not less than $50 nor more than $100, or by imprisonment in the county jail for not less than thirty days nor more than ninety days, and if the person so offending shall be a licensed physician, dentist, pharmacist, or assistant pharmacist, in addition to the penalty above described, such offender's license shall be revoked.

On complaint being made of the violation of the provisions of this act the county attorney of the county where the offense is alleged to have been committed shall prosecute such complaint and to that end is hereby authorized to examine the books of any manufacturer or wholesale dealer within the state for the purpose of tracing the sales of any of the articles herein mentioned.

Physicians from Other States in Minnesota.

Chapter 236 of the General Laws of Minnesota provides that the state medical examining board, either with or without examination, may grant a license to any physician licensed to practice by a similar board of another state, and who holds a certificate of registration showing that an examination has been made by the proper board of any state in which an average grade of not less than 75 per cent. was awarded the holder thereof, the said applicant and holder of such certificate having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in this state, which said diploma may be accepted in lieu of an examination as evidence of qualification. In case the scope of said examination was less than that prescribed by this state the applicant may be required to submit to an examination in such subjects as have not been covered. The fee for such examination shall be $50.

A certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for registration in this state, provided the holder thereof was at the time of such registration the legal possessor of a diploma issued by a medical college in good standing in this state and that the date thereof was prior to the legal requirements of the examination test in this state.

If by the laws of any state or the rulings or decisions of the appropriate officers or boards thereof, any burden, obligation, requirement, disqualification or disability is put on physicians registered in this state or holding diplomas from medical colleges in this state which are in good standing therein, affecting the right of said physicians to be registered or admitted to practice in said state, then the same or like burdens, obligations, requirements, disqualifications or disability shall be put on the registration in this state of physicians registered in said state or holding diplomas from medical colleges situated therein.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 28.

1 *Study of Certain Complications and Sequels Met in Operative Cases of Laryngeal Diphtheria. H. F. Royer, Philadelphia.
2 *Frequency and Etiology of Acute Non-Tuberculous Pneumonia in a General Hospital. W. T. Howard, Jr., Cleveland, Ohio.
3 *Consideration of Hyperchlorhydria. J. A. Lichty, Pittsburg, Pa.
4 *Treatment of Hyperacidity and Hypersecretion of the Stomach. A. Albu, Berlin, Germany.
5 Insomnia and Its Treatment. J. S. Christison, Chicago.
6 *Series of Experiments to Determine the Antitoxic Depreciation of Antidiphtheric Serum. L. C. Layson, Detroit, Mich.

1. **Complications and Sequels of Laryngeal Diphtheria.**—Royer discusses the complications immediately following intubation, or attempts to intubate, when, from reflex apnea, cardiac or respiratory disturbances occur, of such gravity as to compel one to modify the procedure, or of such serious type as to cause the death of the patient. Royer states that atony of the cricoarytenoidei postici muscles may be a cause of acute stenosis after extubation. He also emphasizes the fact that reflex apnea causes dangerous disturbances. Atony of the abductors causes a tube to be returned in many instances. Pressure paralysis and exhaustion of adductors frequently cause autoextubation. Retained tubes are also caused by pathologic changes in the soft structure of the larynx and trachea. Such changes are often hypertrophic in character, following traumatism from the tube or loss of tissue from disease. There may be new cartilage formation in the perichondrium narrowing the lumen of the larynx, thus making a distinct pathologic change. For reflex apnea but little can be done. The courses of treatment open for the other conditions are: (1) Persist with intubation; (2) insert large tubes, allowing them to remain for long intervals of time; (3) when autoextubation becomes dangerous and large tubes are not retained, do tracheotomy; (4) intubate frequently while wearing the tracheotomy tube in order to prevent stricture stenosis; (5) with chronic

stenosis due to contracting scar tissue, practice wide dilation with persistent intubation; (6) consider Roentgen-ray treatment as a possible adjunct in softening scars causing chronic stenosis; and (7) avoid, if possible, tracheotomy as a means of curing a patient of a tube habit.

2. Acute Non-tuberculous Pneumonia.—Howard's study is based on a series of 550 consecutive autopsies. All doubtful cases and all cases of simple bronchitis are excluded. The diagnosis in every case was based on microscopic, as well as on macroscopic examination. The 550 cases furnish 195 instances of acute non-tuberculous pneumonia, an incidence of 35.45 per cent. Of this number 35 were primary pneumonias, 31 cases of acute croupous pneumonia and 4 cases of acute bronchopneumonia. One hundred and sixty cases were secondary pneumonias, 36 cases of acute croupous pneumonia and 124 cases of acute bronchopneumonia. Seventy-six, or about 61 per cent. of these cases, occurred in individuals with acute infectious processes. Of the 43 autopsies in typhoid fever cases in this series, 22 of the subjects had had bronchopneumonia and 5 croupous pneumonia. Of 81 cases of peritonitis from all causes, 36 of the subjects, or 44.4 per cent., had had pneumonia. A study of these cases does not indicate that operation in peritonitis increases the incidence of pneumonia. This point, however, needs further study. In all cases of diphtheria and pertussis coming to autopsy, there had been pneumonia. There were no autopsies in cases of scarlatina, measles or variola. Individuals with chronic nephritis and arteriosclerosis are apparently more likely to have croupous than bronchopneumonia as a terminal infection. Thus of 36 cases of secondary croupous pneumonia, arteriosclerosis was the most marked chronic lesion in 10 and chronic nephritis in 3, while of 124 cases of secondary bronchopneumonia, arteriosclerosis was the most marked lesion in 12, and chronic nephritis in 3.

3. Hyperchlorhydria.—According to Lichty, about one-half of the patients suffering from digestive disturbances have hyperacidity. Many cases of neurasthenia, hysteria, melancholia and hypochondriasis, and some of the organic nervous diseases, such as tabes dorsalis, are frequently associated with hyperacidity. The same thing is true of gastric ulcer and diseases of the gall bladder and bile ducts. The anatomic lesions in hyperchlorhydria are not constant. In some cases there is a proliferation of the glandular element, while in others there is no change whatever. Lichty is of the opinion that hyperchlorhydria proper is always associated with a neurotic condition, and that those cases in which there is a hyperacidity and no associated neurotic condition belong to that group of cases manifesting the earliest stage of chronic gastritis. Proper and timely treatment, says Lichty, is followed in a surprisingly short time by entire recovery. In conclusion, he emphasizes the following points: (1) Hyperacidity is a frequent condition. (2) Hyperchlorhydria is difficult to diagnose. The diagnosis can not be made without an analysis of the stomach contents, and often must be withheld until the course of the condition can be observed. (3) The treatment must be persistent. (4) The prognosis, so far as relief of symptoms is concerned, is good; so far as overcoming the acidity, it is unfavorable.

4. Hyperacidity.—Albu says that in hyperacidity the treatment must be chiefly dietetic, not only in the negative sense, forbidding sour foods, sauces and drinks, spices and other stimulants, alcohol, etc., but in a positive sense by prescribing a very detailed diet. The ingestion of drinks and liquid foods should be limited to a minimum. Solid foods should be taken in the form of broths, single portions of food being given in as small quantities as possible at intervals of from one to two hours.

6. Depreciation of Antidiphtheric Serum.—Layson bases his paper on a laboratory study of antidiphtheric serum representing the stock from which the market had been supplied, together with samples returned from the market, all kept under the varying conditions encountered by field antitoxin. He concludes that the antitoxic value of antidiphtheric serum is retained much longer than has hitherto been believed. The majority of diphtheric serums retain their antitoxic potency unimpaired or but slightly diminished for two, three, four or even five years, and that the maximum depreciation of the occasional serum does not exceed 33.3 per cent., which contingency is guarded against in the practice prevalent with American mercantile antitoxin establishments of adding an excess of serum sufficient to cover the loss sustained by the occasional sample.

Medical Record, New York.

October 22.

7 *Observations on the Cause and Treatment of Perineal Abscess and of the Periurethral Suppurations above the Triangular Ligament. S. Alexander, New York.
8 *Indications for Operating in Acute Mastoiditis. P. D. Kerrison, New York.
9 *Convalescents: Their Care from the Medical Standpoint. L. K. Frankel, New York.
10 *Treatment of Typhoid Fever. D. E. English, Millburn, N. J.

7. Perineal Abscess and Periurethral Suppurations Above the Triangular Ligament.—Great stress is laid by Alexander on the origin of these two conditions in certain cases from infections extending into the glands of Littré, the glands of Cowper, the accessory glands found in the bulb of the corpus spongiosum and in the prostate gland. He says that at present the view is accepted that perineal abscess is due to a microbic invasion from the urethra, which occurs in three ways: (1) Through the glands connected with the bulbous, membranous or prostatic urethra, from which it extends into the perineal tissues; (2) it may occur through small fissures in the mucous membrane of the urethra; (3) it may be the result of a more or less extensive mechanical rupture of the urethra from external or internal violence. Infiltration of urine may occur and may play a prominent part in the infection, or it may be absent. It is not an essential causative factor in these cases. The essential cause of perineal abscess is the action of some pathogenic microbe, but contributing and exciting causes are external injuries, such as falls or blows, and especially by the unskillful or ill-advised use of urethral injections and irrigations, and rough and unnecessary instrumentations. Alexander, therefore, warns against irrigating the deep urethra, except through a catheter, or forcible injections. He considers that perineal suppurations of urethral origin can not be efficiently treated except by operation, and summarizes his plan of treatment as follows: An abscess in the perineum should be freely opened by median incision and its cavity thoroughly disinfected; the membranous urethra should also be opened, and the deep urethra should be explored by the finger, to detect any foci of suppuration which may be present either about the membranous urethra or in the prostate. When such foci are found they should be opened by the finger into the urethra, and the floor of the abscess should be made level with the floor of the urethra; the urine should be diverted from the urethra for a few days by draining the bladder through a large catheter passed into the perineal wound. The details of the operation are described at length and reports of nine cases managed in this way are given.

8. Indications for Operating in Acute Mastoiditis.—Kerrison summarizes the indications for operation as follows: (1) Sudden cessation of the aural discharge, other symptoms persisting, with deep-seated pain in mastoid region. Marked sensitiveness to pressure on the mastoid over an area extending well beyond the limits of the antrum. (2) In the absence of fever, the above symptoms, unless yielding promptly, i. e., in from twenty-four to forty-eight hours, to abortive measures. (3) Marked tenderness over the antrum, persisting from four to five days after free incision of Shrapnel's membrane. (4) Marked variations in the quantity of pus discharged; its maximum flow being apparently too great to be explained by the tympanic lesion; its period of diminution being coincident with the development of mastoid pain or tenderness. (5) Mastoid tenderness having been present and having disappeared, a discharge from the tympanic vault, which resists all rational nonoperative measures. (6) Finally, evidences of mastoid involvement having been present, the development at any time during convalescence of symptoms of septic absorption.

9. Care of Convalescents.—Frankel says that notwithstanding the strides that have been made within the past two decades, in sanitary science, in the practice of medicine and surgery, in the betterment of living conditions, and in the general improvement in the physical status of all classes of the population, it is nevertheless a fact that in only a few diseases has

the death rate been lowered. A study of the census reports shows that while deaths from cholera infantum, diphtheria and consumption were less in 1900 than in 1890, the reverse was the case for nearly all other diseases. This state of affairs the author attributes largely to the fact that in hospital work and in private practice among the lower classes it is impossible for economic reasons to keep the patients under treatment until they are fully restored to health and strength, and in this way a large class of "half-cured" people is developed. These are in a condition of lowered vital resistance so that they easily fall a prey to serious illnesses. The remedy lies in the establishment of suitable convalescent homes, which shall not be like hospitals, but shall resemble as nearly as possible the normal home. For this purpose the country is most suitable, and where land is cheap such institutions should be built on the cottage plan. At the same time, the patient's family must be provided for in his absence, and in this connection the author speaks of the Winifred Masterson Burke Relief Foundation and the Loeb Memorial Home for Convalescents. He urges that the benevolent work of these private institutions be taken up by the state, and says that this would be the best prophylactic against disease of all sorts.

10. **Carbolated Camphor in Typhoid.**—English outlines his plan of treatment, in which the first step, if the patient is seen before the end of the first week, consists in the administration of from ten to twenty or even thirty grain of calomel, followed in eight hours by half an ounce of magnesium sulphate. The diet consists of Weir Mitchell's beef juice, and egg albumin water; milk and toast being avoided, as the author regards these two foods as being particularly harmful. The special medicinal treatment is by means of carbolated camphor, consisting of three pasts of gum camphor to one part of crystallized carbolic acid liquified by heat. The dose is from ten to twelve drops in capsules, at first every two hours and later less often as the fever declines, the abdominal symptoms improve or cardiac depression appears. With this treatment English says that the course of the disease is shortened and the mortality lessened.

New York Medical Journal, New York.
October 28.

11 Abdominal Incision for Tuberculous Peritonitis. S. Lloyd, New York.
12 Uterine Myodbromata and Visceral Degeneration. H. J. Boldt, New York.
13 Cardiac Disease and Uterine Fibromata. C. G. Cumston, Boston.
14 *Transplantation of the Round Ligaments for the Correction of Backward Displacements of the Uterus. E. W. Pinkham, New York.
15 Hodgkin's Disease with a Milky, Non-fatty Pleural Effusion (concluded). D. L. Edsall, Philadelphia.
16 Clinical and Operative Reports of Cases of Biliary and Pancreatic Calculi. E. Staehlin and W. J. Roeber, Newark, N. J.
17 Treatment of Hay Fever. L. W. Sterne, New York.

14. **Operative Treatment of Retrodisplaced Uterus.**—Pinkham has devised an operation which he describes as follows: A curved transverse incision is made after the method of Stimson and Hartley, passing through two points just above the external rings, and carried up on each side about one inch from these points. The skin is then dissected back from the fascia for some distance, the round ligaments are sought for as in the Alexander operation, the accompanying nerves are separated, and the enfolding peritoneum is pushed back until about four or five inches of the ligaments are exposed. The abdomen is then opened in the usual way in the median line, adhesions, if any exist, are broken up and the uterus is replaced. An incision is made in the peritoneum over the round ligaments on each side about one-half inch long and about one inch from the uterine attachments. The ligaments are found, and, as they have been separated from their peritoneal coverings, they can be pulled out through the incisions without difficulty. The peritoneal incisions are closed with Lembert sutures. At the level desired on the abdominal wall on either side of the median incision a sharp forceps is pushed through the structures obliquely, and the ligaments are grasped by the end and pulled through the wall. They are now anchored to the fascia, leaving the requisite length to hold the uterus in its normal position both as to its vertical and its horizontal planes. The abdominal incision is closed as usual. The free ends of the round ligaments are brought across and sewed together, the excess in length being cut off. The external rings are sutured and the skin is brought back and sutured with a subcutaneous stitch. The points of advantage in the operation are that it supplies a natural and sufficient support to the uterus both during quiescence and during pregnancy. During pregnancy, the ligaments will grow and lengthen out as the uterus grows, and after pregnancy will undergo involution with the uterus, so that, theoretically at least, the backward displacement will not recur. The suspension of the uterus is by the round ligaments alone with no peritoneal adhesions to hamper enlargement and involution. By transplanting the ligaments the uterus can be held in exactly the position desired. No trap is set for the intestines, and there is no pulling on the internal ring, or wedge of peritoneum in the way, to increase the tendency to hernia.

Medical News, New York.
October 28.

18 Phases in the Development of Therapy. A. Jacobi, New York.
19 *The Gopher; a Possible Substitute for the Guinea-pig. S. W. Hewetson, Pincher Creek, Alberta, Canada.
20 *Mammary Syphilis, with Involvement of the Axillary and Supraclavicular Glands, Simulating Cancer of the Breast. E. Beer, New York.
21 *Diagnosis and Treatment of Anemia. H. Brooks, New York.
22 Gastric Dilatation. A. G. Hurdman, Denver, Colo.
23 Adenoids; the Cause of Children's Disease Most Frequently Overlooked. J. A. Donovan, Butte, Montana.

19. **The Gopher.**—Hewetson has considered the gopher as a possible substitute for the guinea-pig in laboratory experimentation. He has found that the gopher is extremely susceptible to tuberculosis, thus placing in the hands of medical men residing in the gopher belt an additional aid in the diagnosis of obscure cases.

20. **Mammary Syphilis Simulating Breast Cancer.**—Beer's patient, a woman, aged 35, noticed about four months prior to the examination a mass in her left axilla. A few weeks later she noticed a similar mass in the upper half of the left breast. These tumors caused neither inconvenience nor pain. The tumor in the upper half of the left breast measured 2 by 3 inches. It was not tender. It was freely movable on the deeper parts and non-attached to the skin. Its border was indistinct, its surface smooth, and its consistency moderately soft but not fluctuating. The nipple was normal. In the region directly below the middle of the left clavicle there was a similar mass apparently lying below the pectoralis major muscle and pushing this forward. This mass was about half the size of the tumor in the breast. Its borders were more distinct, and it felt rather spherical. In the left axilla there was another soft mass, almost the size of a hen's egg. It was freely movable and non-tender. In the same axilla there were a number of other enlarged glands. All these were of the consistency of inflamed glands. In the left supraclavicular region another similar mass fully as large as a hen's egg and several small glands of the consistency of chronically inflamed glands could be felt. The large mass in the supraclavicular region corresponded in all of its characteristics to that in the axilla. In the right axilla and right supraclavicular region there were a number of enlarged lymph nodes of normal consistency. On both sides of the neck the posterior cervical lymph-node chains were enlarged and distinctly palpable. Otherwise the patient showed nothing. The consistency of the tumor and the presence of the enlarged posterior cervical lymph nodes suggested the diagnosis of mammary syphilis. The patient was put on antisyphilitic treatment, with the result that all the tumors and enlargements disappeared.

21. **Anemia.**—Brooks emphasizes the following points: 1. The most important step in the study and treatment of resistant anemia is first a thorough and complete examination of each case in its every aspect. 2. The technical difficulties of such an examination are not great, and the results more than repay the time required. 3. Both clinical and laboratory methods must be used and the united evidence impartially considered. 4. The treatment of anemia must be based, first, on a thorough study of the particular case in hand. 5. Greater results are to be expected by the employment of carefully considered hygienic methods than from the use of drugs alone. 6. Little or nothing of value has been recently added to the purely medical treatment of the anemias.

Boston Medical and Surgical Journal.
October 25.

24 *Organization of a Department of Clinical Medicine. R. C. Cabot and E. A. Locke, Boston.
25 *Review of the End Results in Cases of Exophthalmic Goiter Treated Surgically. T. W. Huntington, San Francisco.
26 Use of Ether in Medicine—The Treatment of Neurasthenia by Intermolecular Baths of Polarized Ether. W. Rollins, Boston.
27 Mercuro-Cataphoresis in Diseases of Women. F. C. Carleton, Boston.

24. Organization of a Department of Clinical Medicine.—Cabot and Locke claim that, given good teachers and abundant material for teaching, the benefits acquired by the student can be enormously increased by good methods of instruction or diminished by poor ones. During the past ten years Harvard, with essentially the same teachers and the same material, has added appreciably to the acquirement of her students by the gradual development of a better system of instruction. In their opinion, there are four chief methods of teaching medicine, and they should come in the following order: 1. Tell the student what he is to do. (Didactic or introductory lectures.) 2. Let him watch the instructor do it. (Amphitheater "clinics.") 3. Let him practice it under the teacher's direction. (Section teaching.) 4. Give him the opportunity to be of use by doing it himself under general supervision. (Ward work and out-patient work.) Each of these four processes is to be further subdivided with reference to the three main branches of every subject that is worth teaching, viz., observation, record and reasoning. 1. The student must be told how to observe, how to record his facts, how to reason with medical data. 2. He must watch his teacher in the act of studying cases, recording data and working up those data by reasoning. 3. He must himself practice examining patients, keeping records and reasoning from them under close supervision in small sections—clinics or quizzes. 4. He must be set to work quasi-independently to be of use as a physician himself, first, in the study and care of patients in the wards and dispensaries; second, in the investigation of disease by the collection of cases, reading and experimentation, the whole to be put together as a graduation thesis. Finally, the authors emphasize the need of greater diversity in the methods of teaching, of more drill in the proper keeping of records and of a broader training in the use of literature, more section work, the wider use of pictures in teaching, increase in the amount of independent work, adequate supervision, correlation and criticism of the teaching, and examinations on the ability to practice medicine rather than to write or talk it.

25. Surgery in Exophthalmic Goiter.—Huntington has treated surgically nine cases. In each instance partial ablation of one or both lobes of the thyroid was done, and one patient was subjected to three operations successfully. Seven patients were females and two were males. Their ages ranged from 28 to 56. In five patients there was pre-existing enlargement of the thyroid. In four the development of characteristic symptoms was simultaneous with glandular hypertrophy—all of these were colloid. In the five cases in which the exophthalmic condition developed secondarily, pre-existing glandular hypertrophy was noted during a period of six, ten, thirty-four, thirty-five and thirteen years, respectively. In this series, exophthalmic symptoms had been noted one, two, three, two and two years prior to operation—average one and four-fifths years. Duration of symptoms in the primary or pure Basedow cases prior to operation was two years, three months, two months and one year—average, seven and one-quarter months. Bilateral thyroid hypertrophy was noted in every case. In two it was recorded as slight. In four it was clearly noticeable, and in three the enlargement was exaggerated. The two cases of longest duration, thirty-four and thirty-five years, were of the cystic variety. Exophthalmos was manifest in eight patients. In four this symptom was recorded as slight, in two distressing, in two exaggerated, and in one absent. Tachycardia in varying degree was present in every case, and in four instances it was so manifest as to throw serious doubt on the propriety of surgical interference. Vascular disturbances, with associated symptoms, such as pulsation of cervical veins; arterial hum in the carotids and branches; interference with the sympathetic system manifest in abnormal glandular activity; in profuse perspiration; hyperemia, local or general; alternate dryness and excessive moisture of the palms and soles; polyuria; digestive disturbances manifest in occasional attacks of diarrhea were present in nearly every case. Psychic disturbances and neuroses of a somewhat vague character, which may be described as temperamental changes, undue excitability, intolerance of noise, weeping without adequate cause, capricious appetite, and the development of strong dislike for friends and relatives, was noted in more than half the cases. Two of the patients had experienced frequent well-defined suicidal impulses. Dyspnea of mechanical origin was uniformly present; slight in four and distressing in five cases. Deglutition was interfered with to a greater or less degree in seven cases. Muscular weakness, especially in the musculature of the thighs and back, was of frequent occurrence. In the first case, ether was employed as an anesthetic throughout the entire procedure. In the following three cases, nerve trunk cocainization was employed satisfactorily. In the last five cases, Schleich's method was followed and found to be, on the whole, satisfactory. Eight patients survived the operation and are now living. One patient died on the twelfth day.

Lancet-Clinic, Cincinnati.
October 28.

28 Etiology and Pathology of Mastoiditis. S. E. Allen, Cincinnati.
29 Clinical History of Mastoiditis. T. V. Fitzpatrick, Cincinnati.
30 Treatment of Mastoid Inflammation. J. A. Thompson, Cincinnati.

The Laryngoscope, St. Louis, Mo.
August.

31 The Maxillary Sinus. R. C. Myles, New York.
32 Chronic Empyema of the Antrum of Highmore. G. A. Leland, Boston.
33 The Frontal Sinus. C. G. Coakley, New York.
34 *Conservative Treatment of Chronic Suppuration of the Frontal Sinus. W. E. Casselberry, Chicago.
35 The Ethmoidal Sinus. J. O. Roe, Rochester, N. Y.
36 The Ethmoidal Sinus. J. W. Farlow, Boston.
37 The Sphenoidal Sinus. J. W. Gleitzmann, New York.
38 Comparative Results of Conservative and Radical Methods of Treatment of Disease of the Sphenoid Sinus. T. P. Berens, New York.
39 New Operation and Instruments for Draining the Frontal Sinus. E. F. Ingals, Chicago.
40 Syphilis of the Nose and Accessory Sinuses. J. E. Logan, Kansas City, Mo.
41 Syphilitic Manifestations in the Nasopharynx, Ear and Buccal Cavity. J. A. Stucky, Lexington, Ky.
42 Syphilitic Manifestations in the Larynx and Trachea. F. E. Packard, Philadelphia.

September.

43 *Nose and Ear Complications in Diphtheria, Scarlatina and Measles. J. H. McCollom, Boston.
44 Cysts in Lymphoid Tissue, an Exceptional Manifestation of Tonsillar Retrogression. J. Wright, New York.
45 Two Cases of Successful Obliteration of the Frontal Sinus after Repeated Operations. H. H. Curtis, New York.
46 *An Unusual Case of Laryngeal Syphilis Requiring Tracheotomy. C. F. Theisen, Albany, N. Y.
47 Hemorrhage in Nose and Throat Operations. E. Mayer, New York.
48 Non-operative Treatment of Chronic Otitis Media Purulenta, with Special Reference to the Use of Pyoktanin. G. L. Richards, Fall River, Mass.
49 Obstruction of the Eustachian Tube a Factor in Postoperative Mastoid Fistula and in Chronic Suppuration of the Middle Ear. T. Hubbard, Toledo, Ohio.
50 Acute Purulent Otitis Media Complicating Typhoid Fever. E. W. Day and C. G. Jackson, Pittsburg, Pa.
51 Three Cases of Trifacial Neuralgia Due to Intranasal Causes and Treated Successfully by Intranasal Methods. H. B. Canfield, Ann Arbor, Mich.
52 Observations on Catarrh and Predisposition, or Reflex Versus Catarrh Theory. B. M. Behrens, Minneapolis.
53 Garcia Jubilee Celebration Held in London, March 17, 1905. H. Smith, New York.

34. Conservative Treatment of Chronic Suppurative Frontal Sinusitis.—According to Casselberry, the demand for radical and surgical interference is imperative when there are actually present symptoms of commencing intracranial infection, such as severe persistent headache, chills, fever, central paralysis, etc., but the mere indefinite chance of complications of this kind does not warrant an external operation without additional valid reasons, inasmuch as one risk may be said to balance the other. Hence, the intranasal or conservative methods are especially suitable for latent and mildly chronic uncomplicated single sinus suppurations. Casselberry reports sixteen cases treated on the conservative plan. Six cases were of a mild type, and these patients are now well. Of the remaining ten, typically severe cases, only one patient can be called cured, two are much improved, suffering but little in-

convenience, three more are somewhat improved but are still sufferers, and the remaining four are unbenefited. In five cases there was no continuous discharge, but severe, subacute attacks were repeated every eight or nine months until the middle turbinated bodies were reduced by deep cauterization, when the attack ceased for a period of 11 years, with but one trifling recurrence. One patient had only an intermittently conspicuous discharge. Irrigation of the left frontal sinus, after middle turbinectomy, evacuated pus. The discharge gradually lessened and finally stopped. Three cases of multiple sinusitis were helped by drainage established by means of middle turbinectomies, curettage and irrigation. In three cases, the treatment was interrupted too early, and, while benefit accrued, it was far from a cure. Three patients were not benefited by intranasal treatment, but rejected the external operation. In two cases syphilis was the underlying cause, yet antisyphilitic treatments had little influence. Casselberry advises that in these cases radical treatment should not be deferred too long.

43. **Nose and Ear Complications in Diphtheria, Scarlatina and Measles.**—The points emphasized by McCollom are (1) the frequency of otitis media in diphtheria, scarlet fever and measles, (2) the importance of early operation, mastoiditis occurring in these diseases, (3) the necessity of frequent examination of the ears when there are no symptoms referable to these organs, and (4) early incision of the drumhead in the acute and infectious diseases.

46. **Laryngeal Syphilis Requiring Tracheotomy.**—Theisen's patient had been inoculated with syphilis by her husband. The symptom for which she sought relief was a gradually increasing dyspnea. On examination the nose and nasal pharynx were found normal, with the exception of a slight nasopharyngeal catarrh. The entire epiglottis was infiltrated and pulled back to such an extent that the laryngeal entrance was practically closed. There were no ulcerations. The glottis, with the exception of a very small opening posteriorly, was closed by a mass of cicatricial tissue stretching from side to side just under the vocal cords. The attacks of dyspnea became so frequent that it became necessary to perform a low tracheotomy under local anesthesia. Since then the gain in the patient's general condition has been quite remarkable. She is still wearing the tracheotomy tube. Theisen favors intubation in cases in which the stenosis is not extreme and when it is caused by a thickening and infiltration of the cords and ventricular bands, thus narrowing the glottis. In some such cases intubation may be carefully used without preliminary tracheotomy. When the stenosis is extreme, however, or when membranous adhesions exist between the cords, leaving only a very small opening, a tracheotomy should precede attempts to dilate the stricture from above. In such cases a sudden edema may prove fatal before an intubation tube could be properly adjusted. Tracheotomy, followed by laryngeal fissure, offers the best chances of a permanent cure when there is much cicatricial tissue occluding the glottis by uniting the cords.

Physician and Surgeon, Detroit and Ann Arbor.

September.

54 *New Points of Least Resistance in the Consumption Diathesis. T. J. Mays, Philadelphia.
55 *Skiagraphy of the Stomach and Intestines. H. Hulst, Grand Rapids, Mich.

54. **New Points in Consumption Diathesis.**—May's contribution consists of a study of the vagus reflex in 380 individuals, 138 of whom were consumptives, and in 97 per cent. of these the reflex and the pulmonary affections were found on the same side, and in 3 per cent. on opposite sides—thus being present in every case of consumption. The rest, or 242 persons, were healthy, and of these 117 showed either a vagus reflex or a family history of pulmonary consumption. In 94, or 80 per cent., of the 117 individuals, the vagus reflex and a family history of consumption coexisted in the same person; in 14, or 12.38 per cent., a family history of consumption (which was rather remote in 4) was not accompanied by a vagus reflex; and in 9 patients (three of whom had an alcoholic and 2 an insane ancestry), or 7.96 per cent., the vagus reflex was present without a family history of consumption. In the remaining 125, or about 50 per cent. of these (242) there was complete absence of a family history of consumption and vagus reflex. From this investigation the following conclusions are drawn: 1. The vagus reflex is always present in pulmonary consumption. 2. The vagus reflex is present in about 80 per cent. of healthy people who have a family history of consumption. 3. In healthy persons without a family history of consumption the vagus reflex is universally absent, provided there is no family or personal taint of alcoholism, insanity, or other neuroses. 4. In the development of the vagus reflex dizziness, dyspnea, coughing and sweating are produced. 5. The intensity of the vagus reflex or, in other words, the number of symptoms that accompany its development other than those which manifest themselves locally in the neck, seems to be dependent on the number of consumptive deaths that have occurred in the immediate family. 6. The vagus reflex, by projecting the family history of the potential consumptive into the present, not only becomes a valuable sign in the diagnosis and prognosis of pulmonary consumption, but foreshadows that which is not otherwise evident to the senses, and thus also becomes an important factor in the prophylaxis and treatment of this disease.

55. **Skiagraphy of Stomach and Intestines.**—Hulst's experience in skiagraphy of the stomach and intestines is limited to 22 cases, but these have been amply sufficient to demonstrate to him the value of the method. One ounce of bismuth subnitrate is suspended in one quart of milk and eaten slowly with or without bread. It is important that the bismuth be free from arsenic when such large quantities are given. The first skiagraph is taken immediately or soon after the bismuth meal. In from four and one-half to six hours the normal stomach passes the bismuth on, if no food is taken meanwhile. The second skiagraph should be taken in about six hours and no food allowed between. If food is taken the remaining bismuth, getting mixed with it, is kept in the stomach that much longer. From twelve to forty-eight hours after the meal is the best time to obtain a good picture of the colon, the length of time seeming to be in direct proportion to the degree of constipation present. The anticathode should be accurately centered over the part of the spine directly opposite the umbilicus. The latter, if desired, may be indicated on the plate by sticking a penny on the navel. The distance of the anticathode from the plate should be twenty inches. By observing these two precautions the data obtained from the resulting skiagraphs can serve as a basis for comparison, although they have no orthodiagrammatic value. To get a good view of the pelvis as well, it is necessary to skiagraph the subject standing up. The patient not being exceedingly corpulent, the exposure, with a tube at twenty inches and a good diaphragm, can be made easily in ten seconds, and in even considerably less time, with from 10 to 20 milliamperes going through the tube. Other things being equal, the shorter the exposure the better, on account of peristalsis. The pictures of the normal stomach and colon obtained in this way are at variance with the illustrations and descriptions contained in text-books on anatomy. Hulst believes that this matter ought to be investigated carefully by the anatomist with a view to correcting the existing misconceptions. He concludes by saying that if it is true, as has been claimed, that it is often of more importance in cases of heart disease to examine the abdomen than to distinguish the fine point of the auscultatory symptoms, because relieving gastroptosis may mean relief of the heart, if prolapse of the abdominal organs is only half as common as our best internists now believe, and especially if the condition of ptosis and dilatation is the cause of suffering, chiefly of women, attributed to it, the skiagraphic examination of the abdomen as attempted in this article can not fail to add something of value to the other exact methods of diagnosis.

Western Medical Review, Lincoln, Neb.

September.

56 Tubal Diseases. F. Park, Omaha, Neb.
57 Suprapubic Prostatectomy. A. I. McKinnon, Lincoln, Neb.
58 How and When to Operate for Prostatic Hypertrophy. A. C. Stokes, Omaha, Neb.
59 The Abortive Type of Typhoid Fever. W. R. Young, Ansley, Neb.
60 Review of Tubercular Peritonitis. B. H. Oberembt, Milwaukee.

Colorado Medicine, Denver.
September.

61 Subnormal Temperature in Tuberculosis. M. Collins, Denver.
62 Annual Address of the President of the Denver Academy of Medicine. H. Sewall, Denver.

Medical Sentinel, Portland, Ore.
September.

63 Mental Mechanism. L. E. Holmes, Butte, Mont.
64 Duty of the State in Preventive Medicine from a Medical Standpoint. C. J. Smith.
65 Infantile Anemia. I. B. Bartle, Eugene, Ore.
66 Case of Spotted Fever. J. W. Geary, Burns, Ore.

Virginia Medical Semi-monthly, Richmond.
September 22.

67 Cough Due to Causes Outside the Lungs. J. J. Richardson, Washington, D. C.
68 Therapeutic Uses of the Roentgen Rays. E. G. Williams, Richmond.
69 Spinal Analgesia. C. E. Young, Prescott, Arizona.
70 Principles of Surgery. S. McGuire, Richmond.

Archives of Ophthalmology, New Rochelle, N. Y.
September.

71 Case of Symmetrical Congenital Absence of Choroid and Retina Except in the Macular Area. O. Landman, Toledo, Ohio.
72 Eye Infection. Second Hundred Cases with Bacteriologic Examination. D. Smith, Bridgeport, Conn.
73 Case of Multiple Cyst Formation of Both Lower Fornix Folds. A. Ackermann, Halle.

Woman's Medical Journal, Toledo, Ohio.
September.

74 Arteriosclerosis Ending in Cardiac Insufficiency and Acute Glossolabio-laryngeal Paralysis. M. Hawes, Denver.
75 Peripatetic Biliary Calculi. N. S. Davenport, River Forest, Ill.

Ohio State Medical Journal, Columbus.
September.

76 Multiple Hemorrhagic Erosions of the Stomach. J. Eichberg, Cincinnati.
77 Gastroenterostomy Considered as a Conservative Measure in the Treatment of Various Diseased Conditions of the Stomach and Intestines. C. A. L. Reed, Cincinnati.
78 Features in the Diagnosis and Treatment of Associated Gastritis and Nephritis. M. J. Lichty, Cleveland.
79 Importance of a Correct Interpretation of the Source of Pathologic Elements in the Urine. W. E. Lower, Cleveland.

Indiana Medical Journal, Indianapolis.
October.

80 Clinical Studies in Europe. E. Walker, Evansville.
81 Fractures of the Patella. J. H. Ford, Indianapolis.

New York State Journal of Medicine.
October.

82 Diagnosis and Treatment of Gastric Ulcer. W. Van V. Hayes, New York.
83 Systematic Examination of School Children's Eyes. A. C. Snell, Rochester, N. Y.
84 Case of Multiple Neuritis and Diabetes Mellitus. W. T. Sherman, Crown Point Center, N. Y.
85 Chronic Gastric Catarrh; Symptoms and Treatment. V. A. Marshall, Moriah, N. Y.
86 Résumé of Recent Literature on Pneumonia. J. C. Smith, Canandaigua, N. Y.
87 Case of Myxedema, with Remarks on Thyroid Feeding. R. G. Loop, Elmira, N. Y.
88 Bronchopneumonia. C. E. Darrow, Rochester, N. Y.
89 Scarlatinal Nephritis. C. O. Roswell, Rochester, N. Y.
90 Non-operative Treatment of Hemorrhoids. A. J. Westlake, Elmira, N. Y.
91 Conservative Surgery of Extremities. G. H. Fish, Saratoga, N. Y.

Pacific Medical Journal, San Francisco.
October.

92 Use of the Solar Cautery and Other Methods in the Treatment of Diseases of the Skin and Its Appendages. O. V. Thayer, San Francisco.
93 Outline of Parental Periodic Paralysis. J. C. Booth, Lebanon, Ore.
94 Rational Use of Wines in Health and Disease. C. A. Wetmore.
95 One Possible Cause for Appendicitis. F. Brewer, King City, Cal.

Journal of Mississippi Medical Association, Vicksburg.
October.

96 Obstetric Experience. H. A. Minor, Macon.
97 Treatment of Lobar Pneumonia. F. C. Spalding, Gunnison.
98 Puerperal Eclampsia. W. H. Rowan, Wiggins.
99 Treatment of Leg Ulcer. J. M. Alford, Ellisville.

St. Louis Courier of Medicine.
October.

100 Three Cases of Eclampsia; Autopsy Findings of One Case. P. H. Swahlen, St. Louis.
101 Etiology of Eclampsia. H. Ehrenfest, St. Louis.
102 Premature Infants. V. P. Blair, St. Louis.
103 Baby Incubators on the Pike. J. Zahorsky, St. Louis.

Medical Standard, Chicago.
October.

104 Splanchnoptosis. B. Robinson, Chicago.
105 Sanitary Supervision of Country Schools. C. W. Olesen, Lombard.
106 Indications for the Treatment of Cholecystitis. B. Holmes, Chicago.
107 Surgical Treatment of Appendicitis. A. R. Pollock, Antonito, Colo.

Buffalo Medical Journal.
October.

108 Aims and Uses of a Medical Society. A. W. Hurd, Buffalo.
109 Perineal Injuries and Methods of Repair. J. Price, Philadelphia.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.
October 15.

1 *Medical Education in London. T. C. Allbutt.
2 *Rand Miner's Phthisis. T. Oliver.
3 *Pulmonary Atelectasis in Adults. W. R. Huggard.
4 *Tracheotomy Under Local Anesthesia. S. C. Thomson.
5 *Traumatic Pneumonia. C. M. Beadnell.
6 Hysterectomy for Fibroid Disease in Three Sisters; Recovery. A. Dorsa.
7 Parovarian Cyst with Twisted Pedicle. C. Berkeley.
8 *Colloid Carcinoma at Twelve Years of Age. J. A. Milne.
9 Case of Hematoma of the Labium Majus Formed During Labor. J. Jones.
10 *Rats in Relation to Plague. B. Skinner.
11 *Poisoning from Tinned Sardines; Coma; Death; Necropsy. H. Calger.

1. **Medical Education in London.**—In this paper Allbutt discusses education versus instruction; preliminary education as obtained in the public schools; university instruction and its value in expanding and enlarging the mind, making it a more and more perfect instrument of knowledge and progress; the needs of medicine; the overloading of the medical curriculum, teaching many studies ill rather than a few studies well; the facilities for postgraduate study and research work, and the ethics and outlook of the medical profession.

2. **Rand Miners' Phthisis.**—Under this title Oliver describes a form of phthisis prevalent among the Rand gold miners. It is due to the inhalation of a fine dust that rises during the dislodgment and breaking up of stone by the use of explosives and the shoveling aside of débris of fallen stone. The essential pathologic feature of this variety of phthisis is the formation and retraction of fibrous tissue of a low type. The disease once developed, is seldom interrupted; it tends to become progressive. A peculiar bronzing of the skin and shortness of breath are the two prominent symptoms of this affection. One of the distinctions between gold miners' phthisis, or silicosis, and ordinary tuberculous phthisis is that in miners' phthisis a man does not feel that he is really ill until he is, practically speaking, past all work, whereas in the tuberculous form the patient is often ill long before there is any extensive disease in the lung, owing to the fact that toxins are secreted by the tubercle bacilli, while there is no soluble poison in miners' phthisis. There is no medicine or combination of medicines that will check the onward course of the disease once it is fully established. Cod-liver oil, nux vomica and potassium iodid, liquor strychniæ, calcium glycerophosphates or the hypophosphites will help to maintain the general health, but the best treatment of all is for men not to work too long at rock drilling, to work fewer hours a day than they have been doing, and on the first indications of failing health and strength to give up the work and seek for a life in the open.

3. **Pulmonary Atelectasis in Adults.**—Huggard states that atelectasis, in so far as it affects a small portion of lung in adults, is an extremely common condition at the apex, but is overlooked owing to the ordinary method of examining the chest. The usual physical signs are dullness on percussion with feeble breath sounds, the dullness diminishing or passing off after a few deep breaths, the breath sounds at the same time becoming more distinct. A few sticky or viscid râles can often be heard toward the end of the first two or three deep breaths, but they get gradually fainter and then disappear. The signs of atelectasis may reappear with extraordinary rapidity. The most frequent seats of affection are, first, from the apex to the second interspace in front; next, the suprascapular, and then the interscapular region. The primary ailment must be attended to. For the condition itself, systematic deep breathing must be employed; for example, deep respira-

tions should be taken for a few minutes every hour. If there are no contraindications, exercise to develop the chest muscles is advisable. The patient must be careful to avoid anything, whether clothing or a cramped position, that might interfere with the free expansion of the chest.

4. **Tracheotomy Under Local Anesthesia.**—In 9 cases Thomson performed tracheotomy under local anesthesia. A tablet containing one-fifth grain of cocain hydrochlorid, one-fiftieth grain of morphin hydrochlorid and one-fifth grain of sodium chlorid is dissolved in 56 minims of sterilized water. To this is added a 1 to 1,000 solution of adrenalin chlorid in the proportion of one drop to every fifteen of the solution so that 4 minims of adrenalin would be contained in 60 minims of the prepared fluid. The skin over the trachea having been sterilized, a drop of pure carbolic acid is deposited on it at the two extremities of the proposed incision. The slight eschars produced are useful guides in indicating the situation and extent of the incision through the skin, and they render it so insensitive that the first prick of the needle is hardly felt. The anesthesia produced is complete and there is no danger of hemorrhage. Thomson performed these tracheotomies for cancer of the larynx, cancer of the esophagus, tuberculous laryngitis, lupus of the larynx, tertiary syphilis of the larynx, and malignant disease of the thyroid gland.

5. **Traumatic Pneumonia.**—The interest of Beadnell's case centers in the fact that a severe blow over the left lung of a robust and temperate young man was followed, some few hours later, by the onset of a definite left-sided pneumonia. There was no history of chill from exposure to wet or cold or of any previous attack of the malady. The weather had been perfect, and pneumonia was not prevalent; in a word, no predisposing influence other than traumatism was known to be present.

8. **Colloid Carcinoma.**—Milne reports a case of colloid carcinoma occurring in a boy 12 years old. The patient first complained of abdominal pain. This was followed by vomiting and diarrhea, restlessness and low delirium. About 13 hours after the appearance of the first symptom the patient was in collapse, the aspect being that of abdominal disease. Warmth, stimulants and turpentine enemata were applied and ergot and morphin were administered. The patient died that night. The autopsy disclosed a much distended large intestine, the contents consisting of gas and a dirty brown fluid. In the upper part of the rectum was a hard mass which consisted of a concentric growth in the rectal wall extending for two inches along the rectum and constricting its cavity. There were several enlarged glands behind this mass. The intestinal wall was thickened, while the mucous membrane was eroded and ecchymotic. Pathologic examination demonstrated that the growth was a colloid carcinoma of the large intestine.

10. See abstract in THE JOURNAL, Sept. 23, 1905, page 947.

11. **Poisoning from Sardines.**—In the case reported by Caiger vomiting and diarrhea were absent and coma was the prominent symptom, the coma appearing about 18 hours after the ingestion of the sardines. The patient died.

The Lancet, London.

October 14.

12 Medical Science Forty Years Ago; A Retrospect and a Forecast. L. Brunton.
13 Aneurism of the Abdominal Cavity. W. Osler.
14 *Points in Connection with the Exaltation and Reduction of Blood Coagulability by Therapeutic Measures. A. E. Wright and W. E. Paramore.
15 *Case of Diver's Paralysis. W. H. White and F. A. Bainbridge.
16 Case of Anencephalic Monster. R. H. Paramore.
17 Case of Toxic or Typhoid Pneumonia. A. M. Elliot.
18 Inflammation of the Pharyngeal Tonsil. P. McBride.
19 Distension of the Gall Bladder Simulating Ovarian Cyst. J. A. C. Kynoch.
20 *A Method of Sterilising Sponges. F. W. Andrewes.

14. **Exaltation and Reduction of Blood Coagulability.**—Wright and Paramore have investigated the accelerating effect produced on the blood by the ingestion of calcium chlorid, calcium lactate, magnesium carbonate, milk and other medicinal agents.

15. **Diver's Paralysis.**—White and Bainbridge report a case of diver's paralysis occurring in a man, 38 years of age, who had been a diver for fifteen years. The symptoms presented were typical of the affection. The man was under observation for several years, and death finally ensued, with symptoms of pulmonary tuberculosis and cirrhosis of the liver predominant. The autopsy confirmed this diagnosis. The brain and spinal cord were removed from the body about 24 hours after death, and they appeared normal to the naked eye. The cord was hardened for six weeks in a mixture of 3 per cent. bichromate of potassium and 10 per cent. formalin; pieces from different levels of the cord were imbedded in paraffin. The staining methods used were those of Marchi and Weigert-Pal; anilin blue-black was also employed. The white matter showed no morbid changes either by Marchi's method or by the Weigert-Pal method. Throughout its entire length the periphery of the white matter presented a vacuolated appearance; this was due, however, to postmortem changes. A large number of sections of the grey matter from different parts of the cord were examined; many of them were cut serially. They appeared to show that the cells in the lumbar region were fewer in number than usual; the deficiency was most marked in the case of the large cells of the anterior horns. The cells which were present looked healthy, the only exception being that some who saw the sections thought one or two cells showed slight necrosis. The perivascular spaces in the lumbar region were larger than those in the thoracic or cervical regions. Since sections from all parts of the cord were treated in precisely the same way, the larger perivascular spaces in the lumbar region could not be due to shrinkage of the vessels. There was definite thickening of the small arteries in both the grey and the white matter; the patient had been a drinker. No hemorrhages were observed.

20. **Method of Sterilising Sponges.**—Andrewes uses a solution of persulphate of ammonium for sterilizing sea sponges used in surgery. The exact mixture advocated is made up as follows: Thirty-seven grams of ammonium persulphate are dissolved in 950 c.c. of pure distilled water and 11 c.c. of strong hydrochloric acid are then added. When first made up, the mixture has no very extraordinary germicidal powers, but in the course of a few days these become very pronounced, and when six days old the mixture will kill anthrax spores in less than one minute. It retains its efficiency for many weeks. It is a perfectly clear, colorless solution, with no staining powers and no injurious action on the skin, though it may fix blood stains in the crevices of the nails. Some of the methods in common use for the preparation of sponges for surgical purposes occupy several days. By this method they can be sterilized with certainty in an hour, whereby considerable economy in the stock of sponges required can be effected. Moreover, discolored sponges can be bleached and renovated. For this latter purpose a sojourn of two or three days in the mixture is requisite. For mere sterilization, an hour is ample; the sponges should then be rinsed in sterile water and stored in carbolic solution. This is advisable because the persulphate does exercise a certain injurious effect on their texture. Andrewes found that if they are kept soaking in the mixture for three or four weeks they become softened and eventually disintegrate; hence, the shorter the sojourn at each sterilization the longer will be the life of the sponge. He emphasizes two facts in connection with this method. First, the persulphate mixture should have been made up at least four days before use, but preferably not more than a month. Second, the method does not do away with the necessity for preliminary mechanical cleansing of the most thorough kind to get rid of all fibrin and other organic matter in the interstices of the sponge. The expense of the method is slight—a gallon of the persulphate mixture costs less than 25 cents.

Journal of Tropical Medicine, London.

October 21.

21 Behavior of Certain Bodies which Closely Commingle with and Resemble Leucocytes in the Earliest Stages of Cancer Formation in the Human Body. G. H. Fink.
22 Importance of the Hyaloid Membrane in Mature Cataracts in India. G. H. Fink.
23 Etiology of Sprue. D. J. Galloway.

Bulletin de l'Académie de Médecine, Paris.

Last indexed page 939.

24 (Year LXIX, No. 31.) *Ablation de l'estomac pour cancer de la petite courbure (gastrectomy). J. Boeckel (Strasburg).
25 *Infection et intoxication par des viandes et leur rapport avec certaines maladies infectieuses de l'homme (infection from meat). V. Babes.

26 2 cas de pleurésie médiastine, l'une purulente, l'autre gangréneuse, traitées et guéris par la thoracotomie. Pursot.
27 *Urgence de la recherche officielle et méthodique des tuberculeux pulmonaires au point de vue de la préservation sociale (systematic search for tuberculous individuals). E. Vidal.
28 *Du traitement du lupus ulcéré et de quelques autres manifestations tuberculeuses par l'héliothérapie. Vidal.

24. **Removal of Stomach.**—Boeckel reports a second case of almost total gastrectomy on account of cancer. His first patient lived for seven and a half months after removal of the stomach and then succumbed to the effects of intestinal occlusion. The autopsy showed that there was no trace of recurrence of the cancer nor of metastasis. The patient had been in good health during the interim, eating ordinary food and digesting better than many other persons. The possibility of good health after total removal of the stomach is further corroborated by the present case. The patient was a man of 43, and the cancer in the lesser curvature occupied almost the entire cavity of the stomach. The organ was entirely removed below the cardia and the duodenum sutured to the latter. The patient was dismissed, quite recovered in three weeks, having gained 13 pounds. Boeckel reviews 48 published cases of removal of the stomach on account of cancer or (in 3) of plastic linitis. The mortality was 39.1 per cent., but two-thirds of the deaths were due to peritonitis, and in the others to shock or to pneumonia. Out of the 28 individuals reported cured, 21 have been followed to date, and recurrence was observed in 11 (before the second year in 7, and between this and five years in the others). Two of the 22 succumbed to an intercurrent affection, and 8 are living in good health, 2 for more than a year, 5 between two and five years, and 1 for more than eleven years. In every instance the cancer was in an advanced stage.

25. **Infections and Intoxication from Meat.**—Babes writes from Bucharest to suggest that certain diseases observed in human beings are traceable to meat from animals affected with similar infectious diseases, due principally to microbes intermediate between Eberth's and the colon bacillus. The principal characteristics of this group are the great virulence of the germs, the production of toxins which resist high temperatures, and the ability to produce infection by way of the digestive tract. He gives a number of instances of epidemics from this source and queries whether it is not responsible for a whole series of human affections, such as paratyphoid, certain cases of typhoid, dysentery, different cases of cholera morbus, of enteritis, of septicemias, of hemorrhagic affections, and of bronchial, pulmonary, gastrointestinal and hepatic infections of obscure origin, of Weil's disease, and of infectious myelitis, in all of which he has succeeded in isolating microbes resembling in every respect the *Bacillus enteritidis* by Gaertner or the paratyphoid bacillus. Serodiagnosis should not be considered complete unless made with these bacilli as well as the typhoid bacillus.

27. **Urgency for Detecting Tuberculosis Among the People.**—Vidal urges that all medical certificates issued to wet nurses, school children, etc., should include a clause testifying to the condition of the individual's lungs. All government employes should be inspected by a physician at certain intervals to detect incipient tuberculosis, and every person consulting a dispensary or entering a hospital, presenting any indications of tuberculosis, should be reported to some central office where a register should be kept of all cases of tuberculosis. Measures should be taken to protect and to cure patients in the incipient stage and to prevent infection of others.

28. **Cure of Surgical Tuberculosis by Exposure to Sunlight.**—Vidal practices at Hyères, on the southern coast of France, and here reports 8 cases of patients with ulcerating lupus or with tuberculous ulcerations in the neck or tuberculous arthritis of the knees, all cured by systematic exposure to the direct sunlight for several hours a day. In some of the cases all previous measures had been ineffectual.

Presse Médicale, Paris.

29 (Nos. 79-80, October 4-6.) *Le chien tuberculeux (dog). L. Landouzy.
30 *La tuberculose des buandiers, blanchisseurs, buandières, blanchisseuses et repasseuses (of laundry employes). Id.
31 Histogenèse des lesions tuberculeuses du poumon humain (in human lung). M. Letulle.
32 *Tuberculose rénale. J. Albarran.
33 L'influence de la puerpéralité sur la tuberculose. F. Bonnaire.
34 (No. 81, October 7.) Lumière et tuberculose (sunlight in houses). A. Rey.
35 (No. 82.) Le micrococcus catarrhalis. F. Bezançon and S. I. de Jong.
36 Resolutions Adopted by International Tuberculosis Congress. Paris, October 7.

29. **Tuberculosis in Dogs.**—Landouzy states that the museum annex to the Tuberculosis Congress contained an exhibit of tuberculous lesions found in dogs, with statistics showing the frequency of the disease among them. One veterinary school reported that the proportion of tuberculous dogs has increased from 4.5 to 9 per cent. during the last five years. Several of the specimens exhibited were of tuberculous ulcers on the muzzle and elsewhere. Some were from dogs that had been pets of noted persons. He adds that the dog tuberculized by man is another example of the diffusion of the tubercle bacilli by promiscuous expectoration. The tuberculous dog, playing with the children, licking their faces, licking the hands of his master, may recommence the cycle of infection. In conclusion he remarks that all danger from this source can be avoided by rigid measures to prohibit promiscuous expectoration and to destroy all virulent bacillary material in the houses and to enforce the use of closed garbage cans in which dogs are unable to forage.

30. **Tuberculosis in Laundry Workers.**—Landouzy has had opportunity to examine 1,500 laundry employes treated at the Laennec Hospital, this class forming fully 6 per cent. of the 23,249 inmates of the hospital between 1900 and 1904. More than a third of the 1,202 women and more than a half of the 388 men were affected with pulmonary tuberculosis, generally of the acute form. Surgical tuberculous lesions were rare among them. Laundry employes, as a rule, are young and strong, but they become infected from breathing the dried sputa from handkerchiefs, napkins and bed linen. All these articles are sorted out, pell-mell, and the employes live and breathe in an atmosphere full of bacillus dust. He pointed out long ago that attendants in hospitals have much less to fear from eruptive diseases, diphtheria or typhoid fever than from dry sweeping of the wards and halls, and that postoffice clerks employed out of doors are much less subject to tuberculosis than those employed in the postoffices where dust is being constantly brought in and stirred up by the public. Also that policemen are in much less danger from the bullets of bandits than from the promiscuous expectoration on the floors of the police stations. In the same line he now points out that laundry employes run much less risk from pneumonia, etc., than from their manipulation of dry handkerchiefs, napkins, pillow cases and sheets. He adds that this professional tuberculosis of laundry workers may entail endemic tuberculosis. Sanitary certificates should be insisted on for every house, and they should state the profession of its inmates or late residents. If they include a laundry worker, the house should be mistrusted until disinfected. Tuberculosis among laundry workers is avoidable, and education of the public will certainly reduce its proportions. Education, he adds, will foster the fear of contagion, and the spittoon will be generally adopted, just as the custom of using a handkerchief when blowing the nose was introduced into France in the days of Henry III. When the fear of contagion is once implanted, protective measures will become mere ordinary reflex actions. The task of educating the public belongs to physicians. They must make families understand that they have duties to perform, and chief among them is the obligation to render harmless the virulent expectorated matters and to take care of soiled linen differently from the present customs. Laundry workers should be protected by sanitary regulations, enforced by public authority if need be.

32. **Tuberculosis of the Kidneys and "Experimental Polyuria."**—Albarran lost only one patient in 64 on whom he performed nephrectomy, and regards it as scarcely a dangerous operation. Nine of his patients, operated on more than six years ago, and 2 more than ten years ago, are known to be in good health to-day. The general health improved remarkably after the nephrectomy in every instance, and the secondary cystitis was much improved or cured by the operation. The cystitis always heals when it is due to mere irritation of the bladder, but if the tuberculous lesions in the bladder are in an advanced stage cure is dubious. Without operation, tubercu-

losis of the kidney entails inevitably the destruction of the organ. Even if the process heals, stenosis or obliteration of the ureter is unavoidable. The only contraindications to nephrectomy are insufficiency of the other kidney and bad general condition. The early signs are usually merely disturbances in urination and changes in the urine, occasionally accompanied by general debility and pain in the kidney. Absence of micro-organisms in a purulent urine should suggest the possibility of renal tuberculosis. He refers to a work he has published recently on the exploration of the kidney functions, summarizing his views in the statement that intravesical segregation of the urine, cryoscopy, phloridzin glycosuria and the methylene-blue test are all more or less unreliable. He found that methylene blue can be eliminated apparently normally when both kidneys are diseased, and even when one of the kidneys is profoundly affected with tuberculosis with large cavities. Catheterization of the ureters for from fifteen to thirty minutes is also unreliable. He asserts that the only means of obtaining absolutely reliable information in regard to the functional capacity of the kidneys is by what he calls "experimental polyuria." This consists in comparing the rate of spontaneous and induced elimination of urine by the two kidneys in a series of samples successively collected by catheterization of the ureters before and after the induction of polyuria by ingestion of water. By this measure it becomes possible to study microscopically and chemically the urine from each kidney and to determine the working capacity of each organ. In possession of data thus obtained, the surgeon is able to make a diagnosis with certainty in the early stages and to establish the prognosis of surgical intervention on a solid basis, thus sparing the patient the dangers of temporization.

Semaine Médicale, Paris.

37 (XXV., No. 41, October 11.) Legal Fees in France for Medical Attendance of Victims of Industrial Accidents.—Le tarif officiel, etc.

38 *Present Status of Our Knowledge in Regard to Tuberculosis. —L'état actuel de nos connaissances sur la tuberculose. L. Cheinisse.

38. Present Status of Our Knowledge in Regard to Tuberculosis.—Cheinisse has been an attentive attendant at all the European tuberculosis congresses. He summarizes the work of the International Congress, which has just closed its sessions at Paris, in the statement that it has not added to our knowledge in regard to tuberculosis, except possibly in the authoritative denial of Koch's assertions in regard to the duality of human and bovine tuberculosis. He calls particular attention to the fact that, notwithstanding the great hopes based on the newer diagnostic methods that have been evolved in the laboratory, the clinic still holds its own as pre-eminent, especially in deciding a question so delicate as the early diagnosis of tuberculosis. He remarks that the very multiplicity of "serums" and "new tuberculins" proposed for the treatment of tuberculosis is an evidence that to date none of them can be regarded as specific. The lack of corroborative reports from others besides the inventors or discoverers of these serums is testimony enough, especially when, as in the case of Marmorek's serum, his confrères have been given ample opportunity to try them. Cheinisse says in regard to Behring's announcement that the profession will have to wait until the worth of his new remedy has been tested and confirmed by other scientists, both experimentally and in the clinic. Cheinisse further discusses the collaborating of the press in disseminating scientific views. This part of his article was reviewed editorially on page 1411.

Berliner klinische Wochenschrift.

39 (XLII, No. 36, Sept. 4.) *Endoskopie der Flexura sigmoidea. H. Strauss (Senator's clinic, Berlin).

40 Die Spirochæta vaccinæ. H. Bonhoff.

41 *Vorkommen von Spirochæten bei syphilitischen und anderen Krankheitsprodukten. F. Mulzer.

42 *Should a Mother with Scarlet Fever Nurse Her Child?—Kann eine an Scharlach erkrankte Mutter stillen? B. Salge.

43 *To Outline Bodies Behind the Sternum.—Ueber den Nachweis substernaler Massen. M. Herz.

44 *Die Behandlung der Lungen-Tuberkulose mit Pacillen-Emulsion Koch. Pöppelmann.

45 Ueber Vererbung und Vererbbarkeit in der Pathologie (Inheritance). H. Reitzke.

46 Eine Testvorrichtung an Beckenstützeln (Improved pelvimeter). L. Baranes.

47 "Meningokokken-Septikämie." H. Salomon. Id. Martini.

48 (No. 37.) *War Injuries in Accident Insurance.—Die Unfallbegutachtung in der Ohrenheilkunde. S. Hagiuay.

49 *Direct Inspection of Upper Air Passages.—Erfahrungen mit den direkten Untersuchungsmethoden der oberen Luftwege. E. Meyer.

50 *Ueber partielle Myotonie unter dem Bilde einer Beschäftigungsneurose und Lähmung. H. Curschmann.

51 *Die Photoaktivität des Blutes (of blood). V. Schläpfer.

52 *Ueber physiologisches und pathologisches Wachsthum (growth). R. Beneke. (Concluded.)

53 Zur Lehre von den Antikomplementen. C. Moreschi.

54 Modern Research on Albumin.—Resultate der modernen Eiweiss forschung für die Physiologie und Pathologie. C. Neuberg.

39. Direct Inspection of the Sigmoid Flexure.—Strauss states that he has succeeded in endoscopy in 95 per cent. out of his last series of nearly 120 cases. The failures were in persons with such loose sphincters that retention of air was impossible. He applies the pneumatic principle and uses an endoscope of his own devising which, he thinks, is a great improvement over Kelly's. He gives illustrations of it and of the views obtained. In many pathologic processes, differentiation is possible only by this means. He relates a number of instances to show the value of the information thus derived. In one, for example, the flexure was spasmodically contracted, simulating a tumor, with evidences of gastroptosis. This spastic contraction of the flexure is not uncommon as an accompaniment to gastroptosis. The flexure was sensitive to pressure and the stools contained much mucus. Cancer had been surmised, but sigmoidoscopy revealed, as Strauss expected, absolutely normal conditions, and the patient is still in good health, several years afterward. In another case, hard, enlarged inguinal glands and tenderness of the flexure suggested cancer of the latter, but sigmoidoscopy was negative, and the cystoscope finally revealed a malignant neoplasm in the bladder. There had been no hematuria during the six months the patient had been under observation, only indications of mild cystitis. The contracting force of the constrictors of the flexure is much below that of the anal sphincters, and, as the rectum holds about a pint and the flexure about a quart, a quart and a half of fluid introduced will make its way into the flexure. In order to hold it there, in case the opening is relaxed, Strauss inserts a sound covered with a long, thin rubber bag with an enlargement about 3 mm. from the tip. This bag and bulb are inflated and serve to plug the opening into the flexure. He has very seldom found these mechanical procedures annoying to the patients, and now omits all attempts at local anesthesia except in special cases.

41. Spirochetes in Syphilis.—Mulzer reports positive findings in 55 cases of syphilis, and invariably negative findings in other affections.

42. Nursing When Mother Has Scarlet Fever.—Salge believes that an ordinary cold in the head, in the mother, is more dangerous for the nursing infant than scarlet fever. Infants under 6 months are practically immune, he thinks, to scarlet fever, and a preventive serum injection would protect them in case of diphtheria. Breast milk confers the best protection against infections, and there is no reason for taking the child away from the mother in case she exhibits an acute infection. The only disease that contraindicates nursing is tuberculosis. With this exception, the acute infections are no contraindication to breast nursing, unless the infection is of an extremely severe type, in which event the secretion of milk would probably cease. He cites a case in detail to prove the correctness of these principles. The milk secretion diminished after the onset of the escarlet fever, but it was easily supplemented by a little artificial feeding, and the amount gradually returned to normal as convalescence approached, and both mother and child were soon in fine condition. He warns expressly against the custom of wiping out the mouths of infants, as this is liable to cause erosions which invite infection.

43. Device to Improve Percussion.—Herz uses a small, round, air-tight box to set over the part to be percussed. A rod passes through the top and rests against the skin, and a tube enters the box, the ear tubes being connected with its two branches. The effect of percussion on the rod through the top of the box is transmitted to the ears with magnified intensity. He gives illustrations of the findings when this appliance is placed over the sternum. It enables the outline of the enlarged heart or of an aneurism, mediastinal tumor, infiltrated

part of the lung or other mass directly under the sternum to be determined with great precision.

44. **Treatment of Tuberculosis with Koch's Bacillus Emulsion.**—Pöppelmann has been using this treatment for five years and his experiences have been invariably favorable. He thinks that it is especially adapted for dispensary treatment of incipient cases. If applied on a large scale he is convinced that it would be a most important reform in the campaign against tuberculosis, stifling the disease everywhere at its inception and at trifling expense, without waiting for the red tape sanatorium treatment. He combines it with systematic frictions with some preparation of iodin and open-air reclining when possible.

48. **Injuries of the Ear in Accident Insurance.**—Baginsky urges that the specialist should be consulted at once after an injury affecting the ear. It has been his experience that only in the rarest cases does improvement develop later, and then only to a very moderate extent. There is no doubt that organic changes exist in the patients with a constant subjective and objective clinical picture. Merely functional disturbances are comparatively rare.

49. **Visual Inspection of Air Passages.**—Meyer has had occasion fully a hundred times to inspect the air passages for removal of foreign bodies, new growths or other affections. He uses Kirstein's autoscope for the purpose, and has found this direct inspection most important in his clinic for throat and nose affections. One girl suffered from rapidly recurring papillomata, but she is now completely cured of the tendency, and the tracheotomy wound has been sutured. Fifty-two sittings were required before a permanent cure was obtained. He describes the technic of direct and indirect inspection by autoscopy or with Killian's straight tubes for tracheoscopy and bronchoscopy, and relates a number of instances showing the value of the information to be derived from them in puzzling cases. In one case the bronchoscope aided in removing a wad of cotton in the right bronchus, and in another case bronchoscopy in a child of 3, still suffocating notwithstanding an opening into the trachea, showed fibrinous deposits in the air passages. The recurring deposits were removed through a tube again and again, with the final recovery of the child. In a third case, bronchoscopy in a patient suffering from gangrene of the lung revealed the presence of a piece of bone aspirated ten months previously. It was discovered in a small bronchus 40 cm. from the front teeth. Killian asserts that the time is approaching when a tampon can be applied directly through the air passages to the bleeding point in the lungs in case of hemoptysis. Whether this is ever attained or not, it is certain that the affections of the mucosa in the trachea and bronchi are now amenable to direct local treatment as much as the mucosa of the throat. Meyer asks why a tuberculous ulcer in the trachea can not be treated just as well as one of the larynx, now that direct inspection and local measures are possible.

50. **Partial Myotony in Occupation Paralysis.**—Curschmann describes with minute detail a case of Thomsen's disease with atrophy of the muscles. A previously healthy young man, a brushmaker, acquired an occupation paresis in the extensors of the right hand, while the antagonist muscles atrophied. The restriction of the atrophy to these muscles alone and the circumscribed field of the myotony render the case unusual.

51. **Photoactivity of the Blood.**—Schläpfer exposed a sensitized plate to the action of blood from rabbits after they had been long exposed to the sun. The changes in the sensitized plate convinced him that the blood possesses the property of taking in the light and giving out light energy afterward. He believes that the hemoglobin is mainly concerned in this phenomenon. He found that the blood of albino rabbits displayed this property much more than that of the colored animals. He suggests that varying photoactivity of the blood may be a factor in pathology.

52. **Physiologic and Pathologic Growth.**—Beneke remarks that this year is the semicentennial of cellular pathology, as it was in 1855 that Virchow published his famous axiom, *"Omnis cellula e cellula."* As the natural conclusion from these principles of cellular pathology, Beneke classes all growth as physiologic and pathologic, the latter including cancers, etc., the blastomas, as he calls them. The distinguishing features of physiologic growth are nutrition, function and endurance. The physiologic balance between nutrition and function, or—to express it differently—between the energy of growth and the energy of function, regulates the life cycle of the cell. When the growth is pathologic, this balance is lacking and we behold exaggerated growth with lacking function and a lack also of durability in the individual cell. This cataplasia of the cells may be induced by irritation from without, and when the cells are once transformed under its influence the pathologic growth is liable to continue, although the casual irritation may have long since subsided.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 225.

55 (LXXVII, Nos. 1-3.) *Zur Operation der Carcinome in der Gegend der Tonsillen. L. Heidenhain.

56 Zur Lehre von der Invagination. H. Lorenz.

57 Spontan-Abstossung einer Darm-Invagination. Hermes.

58 Hemorrhage in Mucous of Extirpated Appendix.—Wie ist d. Entstehung der Blut. in d. Schleimh. operat. entfernten Wurmfortsatzes zu erklären? C. Lauenstein and H. Bevensterf.

59 *Ulcers Above Intestinal Strictures.—Ueber die oberhalb von Dickdarmverengerungen auftretenden Darmgeschwüre. W. von Greyerts.

60 *Results of Surgery of Cancerous Stomach.—Ueber 101 Magenresektionen wegen Carcinom. H. Mattl (Kocher's clinic, Berne).

61 Ueber Entstehung und Wesen des arteriellen Collateral-Kreislaufs (circulation). M. Katzenstein.

62 Ueber Luxation im Carpometacarpal-Gelenke des Daumens und über Luxations-Fractur des Daumen-Metacarpus (Bennetsche Fractur). E. Aulhorn.

63 Zur Tuberculose des Hodens und Nebenhodens (of testicle and epididymis). W. von Brunn.

64 Zur Kenntnis der traumatischen Luxationen des Fusses im Talocrural-Gelenke. J. Richter.

65 Ueber Osteoma der Orbita und des Oberkiefers (upper jaw.) A. Vischer.

66 Zur Lehre von der idiopathischen Osteopathyrosis. H. Doering. One case.

67 Infraktionen und Frakturen des Schenkelhalses bei Jugendlichen (of neck of femur in the young). Blecher.

68 Negative Results of Treatment of an Angioma with Pencil-Shaped Sticks of Magnesium.—Zur Behandlung cavernöser Tumoren mit Magnesiumstiften. C. Tollens.

59 Woody Phlegmon of Neck.—Holzphlegmone (Reclus). P. Sick.

55. **Carcinoma in Tonsil Region.**—Heidenhain comments on the bad prognosis of cancer in the pharynx. Czerny has not had a permanent cure in 47 cases, Krönlein only in 2 in 29, one seven years and one two years since the operation, and Lindenborn's summary of the literature on the subject mentions only a few isolated cases of permanent cure. Recurrence is the rule, but the operators fail to state just where the recurrence developed. Details in regard to this point might suggest improved technic. Heidenhain believes that to guard against the possibility of recurrence the operator must decide to remove the side wall of the pharynx, the musculature of the soft palate to beyond the median line, with the uvula, both pterygoid muscles, the superior constrictor of the pharynx and the pillars of the fauces—in short, the entire third of the side of the posterior wall of the pharynx. The bones from which these muscles spring must be removed with them, that is, the maxillary and pterygoid processes and the vertical plate of the palate bone. The masseter may be considered sound if the neoplasm is not adherent to the lower jaw. If it is adherent, then the masseter should be regarded with suspicion, for the carcinoma can spread along the periosteum of the lower jaw without any clinical manifestations. The more of the lower jaw that is cut away the better the oversight of the field of operation and the better opportunity for suturing the defect in the side wall of the pharynx. He has always had good success in suturing it in two or three tiers. As the submaxillary fossa always has to be scraped out, the arc incision from the corner of the mouth to the mastoid process seems preferable in all cases. He describes one case in which he operated by this technic, with fine functional results. The patient, a man of 50, now chews on the other side of his mouth and has no trouble in opening his mouth to 4 cm., chewing and swallowing. Radical procedures along these lines will certainly bring better results than the ordinary technic if the cancers can be removed while they are still small.

59. **Ulcers Above Strictures.**—Greverts has observed 2 cases of this kind at Chaux-de-Fonds, and has been making a study of the subject. It has shown that the distension of the walls of

the bowel above the constriction causes a pronounced tendency to ulcer-formation after a few days of stasis. Every obstruction in the intestines and every case of ileus should suggest the possibility of danger from this source. It is another argument in favor of early operative intervention to empty the intestine.

60. Resection of Stomach in 101 Cases of Cancer.—Matti remarks that resection of the stomach has become a comparatively harmless intervention nowadays. The experiences at Kocher's clinic have shown that cancer of the stomach can be permanently cured. The results will grow constantly better as the cancer is diagnosed earlier and an exploratory incision made on the mere suspicion of carcinoma of the stomach. He advocates the resection with gastroduodenostomy as approximating most closely the natural conditions, while the permanent results afterward are better than with other technics. The mortality from local complications was only 8 per cent. of 75 operations between 1881 and 1904, and only 4.6 per cent. out of 43 patients operated on in the last six years. About 71.8 per cent. of 71 patients traced to date died after an interval of from one month to six years, but 20 patients, a proportion of 28.2 per cent., are still living. The average survival was 18.7 months, and the family frequently state that the patient was free from all stomach disturbances to the end. In one case of supposed recurrence the stomach proved to be free from it; the constant vomiting that had been observed was explained by the finding of retroperitoneal glandular metastases. Of the 20 surviving patients, one is in good health after sixteen years and 6 others after from eleven to five years. Recurrence in the cicatrix was observed in only one instance. Many of the permanent cures were in patients who had presented a palpable tumor, generally of the configuration of the pyloric portion of the stomach. When the stomach was artificially inflated the tumor could be felt on the right, and then it sank gradually lower as the inflation progressed until finally it approached more and more to the right costal arch and generally encroached on it for an inch or more. These changes in the position of the tumor are typically characteristic of a tumor in the pyloric region. When the tumor was in the rear of the stomach it was hidden by the progressive inflation of that organ. The difficulty of palpating a small tumor justifies investigation under anesthesia. In dubious cases, the patients should be examined several times in this way after evacuation of the intestines and stomach and inflation of the latter. Even with negative findings, if the suspicion still persists, an exploratory laparotomy may reveal a cancer, as occurred in some cases in Matti's experience. Ptosis was frequent, probably due to relaxation of the abdominal walls and of the ligaments from loss of fat. In 45 cases the motor function of the stomach was considerably impaired, while in others under lavage and diet it seemed to be nearly normal. The results of chemical examination in 80 cases were that free hydrochloric acid was absent, except in the cases in which the carcinoma had developed on the basis of a simple ulcer or in which the tumor was above the pyloric region. Lactic acid was found in the cases without free hydrochloric acid or with considerable retention. Matti's extensive monograph fills nearly 100 pages.

Münchener med. Wochenschrift, Munich.

70 (LII, No. 37, September 12.) *Ueber spontane Wachstumshemmung der Bakterien infolge Selbstvergiftung (Inhibition of growth by self poisoning). H. Conradi and O. Kurpjuweit.

71 Recurrence of Scarlet Fever After Six Weeks. Post-scarlatinal Strin.—Zwei seltene Beobachtungen bei Scharlach. L. Blothgen.

72 Corynebakterium pseudodiphtheriticum commune als Erreger eines Hirnabscesses (agent of brain abscess). F. Steinhaus.

73 Internal Treatment of Appendicitis.—Ueber innere Behandlung der Blinddarmentzündung. Moosbrugger.

74 Zur Pathogenese der Dehnungsstreifen der Haut (Strie cutis distensæ). K. Zieler.

75 *Zur Symptomatologie des Empyems antri Highmori. Hecht.

76 *Staining Sediment of Urine and of Exudates.—Zur Färbung der Sedimente des Harns und der Exudate. Wederhake.

77 Ueber Ileus ventriculi traumaticum. Fertig.

78 Ueber Verwendung des Balsamum peruvianum bei Behandlung von Wunden und chronischen Unterschenkelgeschwüren (in treatment of wounds, etc.) Aronheim.

79 Ein dauerhafter Nasenspüler (nose irrigator). A. Hofmann (Freiburg).

80 Eine einfache Vorrichtung zum Reinigen von Mischpipetten (Mehlpipetten) (to clean mixing pipettes). W. Preusilch (Vienna).

81 Ueber Säuglingsfürsorge in Paris mit Vorschlägen zum Säuglingsschutz in München (public provisions for care of infants). K. Oppenheimer.

70. Inhibition of Growth of Bacteria by Self-Poisoning.—Conradi asserts that, as they grow, bacteria elaborate a certain substance which is destructive to themselves. This spontaneously-formed antiseptic is more strongly bactericidal than even carbolic acid. It does not dissolve in alcohol nor resist heat; it is diffusible, but does not pass through an earthenware filter, and seems to be of the nature of an enzyme. Its deleterious action is restricted exclusively to the micro-organisms, and he suggests the term "autotoxin" for it.

75. Empyema of Maxillary Sinus.—Hecht reports 2 unusual cases. In one a patient presented remarkable physical depression, multiple neuritis, disturbances in swallowing and darting pains in one ear, while convalescing from a febrile parametritis. The maxillary sinus was sensitive to pressure, but the patient rejected operative intervention, even removal of a carious tooth in that region. An ear specialist examined her twice, but decided that the pains in the ear were due to retraction of the tympanic membrane and that the disturbance in swallowing was merely a nervous reflex trouble. When an operation was finally allowed, all the disturbances were arrested. The second case was distinguished by its rapid course and the development of sudden blindness and of fatal meningitis a few days later.

76. To Stain Sediment of Urine and Exudates.—Wederhake commends neutral red as an excellent stain for the sediment of urine and exudates. For differentiation of wax tube casts he combines it with methylene violet. He uses a 1 per cent. solution of neutral red. One drop is sufficient, dropped on the sediment after centrifuging and decanting all the fluid down to about 1 cm. above the sediment. After shaking well, he fills up the tube with water and centrifuges again. He then decants the fluid and takes up the sediment with a pipette for inspection under the microscope. For the contrast stain he adds 20 c.c. of the 1 per cent. aqueous solution of neutral red to 10 drops of a concentrated alcoholic solution of methylene violet and uses two or three drops of this mixture. For a control stain he uses a concentrated solution of erocsin scarlet 7, B, in 70 per cent. alcohol. He adds one drop of tincture of iodin to the sediment with its 1 cm. of fluid above and adds the scarlet solution to 2 cm., shaking well, centrifuging, decanting and spreading on a cover-glass. If the specimen is to be preserved he pipettes it into a drop of glycerin or Farrant's solution.

Therapie der Gegenwart, Berlin.

Last indexed page 952.

82 (XLVI, No. 9.) *Zur Beurteilung und operativen Behandlung grosser Herzbeutelergüsse (large pericardial effusions). H. Curschmann. (Concluded from No. 8.)

83 Conditions Influencing Acidity and Alkalinity of Urine.—Ueber die Ursache der Acidität-Abnahme im Harn nach Nahrungsaufnahme und die Bedingungen, welche Einfluss auf die Ausscheidung der Alkalien im Harn und auch des Kochsalzes haben. Paul Edel.

84 Die intravenöse Digitalis-Behandlung. Feltz Mendel (Ruhr).

85 *Flüssige Gelatine als Antidiarrhoicum und Stomachicum. E. Cohn.

86 Der Mechanismus der Eiweissverdauung (digestion of albumin). P. Bergell.

87 Eine neue Tropfenbildungsmethode und ihre praktische Anwendung bei Chloroform-Tropfflaschen (drop apparatus). A. Koren (Christiania).

88 Erfahrungen über die Anwendung von Eisen und Arsen (administration of iron and arsenic). L. Laquer.

82. Treatment of Large Pericarditic Effusions.—To puncture the pericardium, Curschmann uses a flat cannula carrying a flat, lance-shaped cutting tip which makes a very narrow incision, while it allows thorough evacuation of the effusion. He discusses the best point for puncturing. At his clinic this varies with individual cases, but he aims to puncture as far from the heart muscle and its apex as possible, disregarding the pleura. He punctures, therefore, farther to the left than other surgeons; in case of moderate effusion,in the left mammary line, but in very large ones outside of this. The extreme limit of dullness to the left is the point chosen. Which interspace to select depends on the position of the diaphragm. After the incision has been made the cannula is left in the wound, the stopcock closed, and a tube filled with salt solution is attached to the outer end of the cannula. When the stopcock is opened, the effusion is siphoned out; the amount

of suction can be regulated. As a rule, the effusion should be evacuated very slowly. Dangerous heart weakness may be observed in case the fluid is removed too rapidly. He generally allows as much fluid to escape as can be done with unforced siphonage. The remnant of the effusion can be trusted to be spontaneously absorbed, especially if diuretics are given. Adhesions and displacement of the heart, etc., contraindicate this mode of treating pericarditic effusions. The effusion should then be tapped on the right side, with resection of ribs, if necessary.

85. **Gelatin as a Remedy for Diarrhea and as a Stomachic.**—Cohn found that diarrhea was favorably influenced when the patients took spoonfuls of a gelatin jelly systematically during the day. As his patients did not take kindly to this jelly medicine, he used gelatin that had been rendered more fluid by heating for six hours. A solution of gelatin thus prepared does not harden unless placed on ice. He doubted whether this fluid gelatin would have the same action as ordinary gelatin, but found that it surpassed the latter in its effect as an antidiarrheic and stomachic. He summarizes the results in 20 children under 2 years, in 6 under 14 and in 32 adults, all outpatients. The results were actually brilliant in certain cases and benefit was apparent in all. He prescribes the gelatin in a 10 per cent. solution, with 1 per cent. citric acid and about 9 per cent. syrup of orange peel, ordering half a tablespoonful every two hours for an infant and one or two tablespoonfuls for an adult. The results of treatment are sometimes not apparent until after 100 or 200 gm. have been taken.

Riforma Medica, Naples.
Last indexed page 882.

89 (XXI, No. 25.) L' Ankylostomum americanum (Stiles). P. D. Siccardi.
90 Richerche batteriologische sul morbillo (measles). A. Bertini.
91 *Hydatid Cyst in Malarial Spleen.—Echinococco primitivo suppurato in milsa malarica. Splenectomia. Guarigione. R. Giannettasio.
92 (No. 26.) *Sulla sindrome clinica degli endoteliomi gastrici a sede pilorica. O. Cignozzi.
93 *Ascending Pneumococcus Neuritis.—Nevrite ascendente da pneumococco del Fränkel. D. Pirrone. (Commenced in No. 24.)
94 (No. 27.) *Sul passaggio delle agglutinine ed antitossine tubercolari nel latte e loro assorbimento per via del tubo gastro-enterico (in milk). F. Figari.
95 *Contributo allo studio della istogenesi del carcinoma epatico e del valore clinico della iperleucocitosi in alcune malattie del fegato. C. Tonarelli.

91. **Hydatid Cyst in Malarial Spleen.**—After splenectomy the patient, a woman of 38, recovered rapidly. The tumor weighed 850 gm. and measured 24 by 14 cm. The woman had never suffered from any digestive disturbances and there had been no pains. The general health was good and the history of long residence in a district where the echinococcus prevailed aided in the differentiation. A distinct resonant zone was found interposed between the left margin of the cystic tumor and the inner margin of the enlarged spleen, but this resonance disappeared if the abdomen was manipulated.

92. **Endotheliomata of the Stomach.**—Cignozzi's article describes a case in detail which answers the typical description of what has been called plastic linitis, but was in reality the effects of an endothelioma in the stomach, with consecutive stenosis of the pylorus. He believes that most, if not all, of the cases of plastic linitis, in fact, belong to this category. The slow development of the trouble (6 years in Brissaud's case and 10 in Oettinger's, with 15 years in his own case), the gradual development of indications of stenosis of the pylorus, the typical picture of pyloric obstruction, vomiting of food without hematemesis and melena, the discovery of a smooth, movable tumor in the pyloric region and the absence of metastases and of cachexia, plus the anatomic findings at the operation, all are features of the so-called plastic linitis.

93. **Ascending Pneumococcus Neuritis.**—Pirrone has demonstrated by his experimental researches that the pneumococcus is able to produce an ascending neuritis, but that the nerves are not an easy route for the propagation of the inflammatory process toward the centers. The lesions grow less and less pronounced as they recede from the periphery. To reach the centers, the germs must be extremely virulent. Traumatism of the nerve centers did not seem to have any influence on the ascending neuritis.

94. **Passage of Antitoxins into Milk and Their Absorption in the Alimentary Canal.**—Figari here continues his report of experimental research in this line. He has demonstrated that not only the young, but also older and adult rabbits, when fed with milk from animals rendered immune, acquire immunity to such an extent that they prove refractory to doses of toxins fatal for the controls. This proves, he thinks, that the antitoxins in the milk must be absorbed in the stomach. These findings, superposed on those of his previous work in this line, sustain his assertions in regard to the value and the importance of milk from immunized animals in the treatment and prophylaxis of tuberculosis. His experiments are described in detail. He also gives the histories of two children presenting signs of incipient tuberculosis, who recovered complete health while taking a quart of milk from the immunized cows every day. The serum acquired pronounced agglutinating and antitoxic properties. He inoculated rabbits with 5 mg. of live, virulent cultures of tubercle bacilli to the kilogram after two months of feeding with the immunized milk. When killed later, no traces of active tuberculosis could be found in them, while the controls all showed unmistakable lesions. The animals had all gained in weight. One of the rabbits is still living, five months after the inoculation, and in good health, having increased nearly two pounds in weight.

95. **Blood Count in Affections of the Liver.**—Tonarelli reiterates that the blood count is a valuable adjuvant in diagnosing affections of the liver. In a case of epithelioma of the liver he noticed low hemoglobin and pronounced oligocythemia in connection with hyperleucocytosis and moderate mononucleosis.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

ANATOMY, DESCRIPTIVE AND SURGICAL. By H. Gray, F.R.S. Edited by T. P. Pick, F.R.C.S., and R. Howden, M.A., M.B., C.M. New American Edition, Revised and Re-edited with Additions, by J. C. Da Costa, M.D. Illustrated with 1,132 engravings. Cloth. Pp. 1,600. Price, $6.00 net. Philadelphia: Lea Brothers & Co., 1905.

OFFICIAL CONGRESSIONAL DIRECTORY. For the Use of the United States Congress. Compiled under the Direction of the Joint Committee on Printing by A. J. Halford. Third Edition, Corrections Made to April 1, 1904. Paper. Pp. 447. Washington: Government Printing House, 1904.

DAS WESEN DER PSYCHOSEN auf Grundlage moderner naturwissenschaftlicher Anschauung. By Dr. H. Stadelmann. Heft v. Die Paranoia. Heft vi. Die Epilepsie. Paper. Pp. 277. Price, 3.50 marks. München: Verlag der "Aerztlichen Rundschau." (Otto Gmelin), 1905.

GEISTESKRANKHEIT UND NATURWISSENSCHAFT, GEISTESKRANKHEIT UND SITTE. GEISTESKRANKHEIT UND GENIALITÄT. GEISTESKRANKHEIT UND SCHICKSAL. By Dr. med. H. Stadelmann. Paper. Pp. 43. München: Verlag der "Aerztlichen Rundschau" (Otto Gmelin), 1905.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By C. von Noorden. Part vii. Translated by F. Buchanan, D.Sc., and I. W. Hall, M.D. Cloth. Pp. 211. Price, $1.50. New York: E. B. Treat & Co., 1905.

BIOGRAPHIC CLINICS. Vol. iii. Essays Concerning the Influence of Visual Function, Pathologic and Physiologic, on the Health of Patients. By G. M. Gould, M.D. Cloth. Pp. 516. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co., 1905.

TECKNIK, WIRKUNGEN UND INDIKATIONEN DER HYDRO-ELEKTROTHERAPIE BEI ABNORMEN DES KREISLAUFS. By Dr. F. C. Franze. Paper. Pp. 71. Price, 1.60 marks. München: Verlag der "Aerztlichen Rundschau" (Otto Gmelin), 1905.

NEUROTIC DISORDERS OF CHILDHOOD, Including a Study of Auto and Intestinal Intoxications, Chronic Anemia, etc. By B. K. Rachford, M.D. Cloth. Pp. 440. Price, $2.75. New York: E. B. Treat & Co., 1905.

LA LEPRA. Etiologia, Historia y Profilaxia. Presented at the Third Scientific Latin-American Congress. By Dr. Juan de Dios Carrasquilla. Paper. Pp. 100. Bogota (Columbia): Hernando Santos, 1905.

TEXT-BOOK OF ANATOMY. By D. J. Cunningham, F.R.S. Second Revised Edition. Illustrated with 936 Engravings, Some in Colors. Cloth. Pp. 1,383. Price, $6.00. New York: William Wood & Co.

NOVOS ESTUDOS sobre a Genese da Ictericia dos Recem-Nascidos. By Dr. O. De Oliveira. Paper. Pp. 12. Buenos Aires: Las Ciencias Libreria de Nicholas Marana, 1905.

PHYSICIAN'S POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. Leather. Pp. 216. Price, $1.00. Philadelphia: The Medical Council.

A DYSENTERIA AMEBICA NA INFANCIA. By Dr. O. De Oliveira. Paper. Pp. 39. Rio de Janeiro: Besnard Freres, 1904.